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PRINCIPAL CONTENTS

Agriculture in Roman Britain
by SHIMON APPLEBAUM

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The East Anglian Foldcourse: Some Queries
by ALAN SIMPSON

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The Lost Village and the Landscape of the Yorkshire Wolds
by ALAN HARRIS

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THE
Agricultural History Review

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Agriculture in Roman Britain[1]

By SHIMON APPLEBAUM

I

IF we consider that agriculture employed a majority of the population in non-industrial societies and is still man's staple occupation, we must admit that the agriculture of Roman Britain has concerned archaeologists and historians much less than it should, for on its vicissitudes depended to no small degree the well-being and decline of the province. The existence of Roman 'villas' was first recognized in this country in the age of Elizabeth, and they began to be excavated in the eighteenth century. The mosaics of the Stonesfield house, Oxfordshire, were found in 1711; Lysons published his handsome account of the Woodchester villa, Gloucestershire, in 1797. But it took a long time before antiquaries understood these remains to be those of farms. The gentlemanly outlook of the Victorian antiquaries, projected upon these relics, saw them as the country residences of Roman officers and gentry; gay mosaics and Horatian banquets were more attractive than cow-houses. In a new epoch (1900) Professor Haverfield, writing his introduction to the Romano-British section of the Victoria County Histories, revealed a clear theoretical realization that the normal 'villa' "was the property of a great landowner who . . . cultivated the ground close to it. . ."; ". . . the blocks (*sc.* of the villa's buildings) may consist of corridor house, barns, outhouses, and farm-buildings." But Haverfield never reached the point of attempting to identify such buildings in the villa-plans he knew. John Ward, to whom Romano-British archaeology owes so much on the practical side, also grasped the villas' agricultural rôle, particularly where the 'basilical' house was concerned. His work was published in 1911.[2] The next intelligent inkling occurs in A. H. Cocks's excavation of the villa at Hambleden, Bucks, in 1913, when a number of furnaces were found. These

[1] This paper summarizes the main contents of a broader piece of research on the agriculture of Roman Britain. For reasons of space it is not practicable to document all the details, and footnotes will be confined to certain selected or outstanding points. The various archaeologists and scholars to whom the present survey owes acknowledgements are too numerous to mention here, but I stand in particular debt to Mr C. E. Stevens of Magdalen College, Oxford, for his suggestions and criticisms. Others whose aid and advice evoke my special thanks include Miss J. Liversidge, Dr E. W. Russell, Mr C. W. Phillips and his staff of the Ordnance Survey Archaeological Section, Chessington; Mr G. W. Willis of Basingstoke Museum, the authorities of the Dutch Government's Institute of Archaeological Excavation, Aamersfordt, and a group of French *savants*, including especially Monsieur P. Fournier.

[2] J. Ward, *The Roman Era in Britain*, 1911; *Romano-British Buildings and Earthworks*, 1911.

Professor Gowland identified as being for the drying of grain.[1] In the later 'twenties, Dr Philip Corder excavated the villa at Langton, in south-east Yorkshire, with a clearer consciousness of its agricultural function, taking care to dig as many of the buildings as he could, identifying threshing-floor and corn-drying furnaces, analysing plant-finds and animal bones.[2] His more recent excavation of a Roman farm near Great Casterton, Rutland, is equally perceptive. Mr Ralegh Radford made an important contribution to our knowledge of Romano-British agriculture by his excavation of the Ditchley villa.[3] He attempted to reconstruct its agrarian development with a scholar's attention to Roman social history and a farmer's eye for farming installations, crop-yields, and the extent of the estate. A further milestone on the way was Professor C. F. C. Hawkes's restudy of the Cranbourne Chase farms excavated by General Pitt-Rivers in last century, with special attention to their agricultural aspects (1948).[4] This work owed a good deal to Dr G. Bersu's masterly excavation of an Early Iron Age farmstead at Little Woodbury near Salisbury in 1944.[5] The year 1948 brought Mr F. G. Payne's comprehensive study of Romano-British ploughs and coulters,[6] and the late Professor M. P. Charlesworth, in his Gregynog Lectures, devoted some attention to the plants introduced by the Romans into Britain.[7] In the meantime the pioneer work of Mr O. G. S. Crawford, the Curwens, and Mr G. Holleyman had prepared another approach to Early Iron Age and Romano-British agriculture by the discovery and study of the 'Celtic' field system. Nevertheless several otherwise very competent excavations of villas have been carried out in recent years without due attention to their character as farms.[8]

II

One of the results of the progress of Romano-British archaeology in the last twenty years has been to establish that the roots of the Romano-British

[1] *Archaeologia*, LXXI, 1921, pp. 141 sqq. The furnaces, pp. 152–3. Pitt-Rivers was, I think, the first to report his finds of animal bones scientifically. McKenney Hughes was a pioneer in the consideration of the remains of Romano-British cattle (*Archaeologia*, LV, 1894); notable were Clement Reid's reports on the plant remains of Silchester (1896–1900) in *Arch.*, LVII–LXI.

[2] P. Corder, J. L. Kirk, *The Roman Villa at Langton*, Roman Malton and District, Report 4, 1932.

[3] *Antiquity*, IX, 1936, pp. 472 sqq.; *Oxoniensia*, I, 1936, pp. 24 sqq.

[4] *Arch. Jour.*, CIV, 1948, pp. 42 sqq.; A. Pitt-Rivers, *Excavations in Cranbourne Chase*, I–IV, 1887–98.

[5] *Proc. Prehistoric Society*, 2nd ser., VI, 1940, pp. 30 sqq.; XIV, 1948, pp. 19 sqq.

[6] *Arch. Jour.*, CIV, 1948, pp. 82 sqq.

[7] M. P. Charlesworth, *The Lost Province*, 1948, pp. 71–3.

[8] For a justified stricture on British archaeologists' neglect of the continental evidence to throw light on British villas, cf. Rostovtzeff, *Soc. Ec. Hist. R. E.*, 1957, p. 636, n. 52.

rural system lay in the British Early Iron Age. Not only did British farmsteads such as those in Cranbourne Chase, Dorset, continue in occupation in Roman times, but traces of pre-Roman dwellings have been detected beneath the remains of Roman villas at Park Street near St Albans; Lockleys near Welwyn; Rudston, Yorkshire; Catsgore, Somerset; and elsewhere. 'Celtic' fields are known to have been cultivated continuously under Roman rule. On the other hand, not much has been done to study the social implications of such continuity, or to relate archaeological features to what we know of Celtic society.

A few years ago, working from Helbaek's analysis of prehistoric grain-finds in this country,[1] I endeavoured to demonstrate that in the last 500 years B.C. a shift of emphasis began to take place in Britain from the cultivation of summer to that of winter grains, partly under the impact of climatic deterioration.[2] The same period saw the establishment of the mould-board plough to secure better drainage (Payne). I was able to correlate this agricultural change with the field-system of Figheldean Down, Wiltshire, where it was possible to argue the enclosure of a winter-crop area and the fencing of summer grazing-grounds for stock which moved on to the summer crop-areas in the winter. This development seemed to be part and parcel of the social evolution leading to the erection in the second or first century B.C. of a local hill-fort. The village unit at Figheldean Down covered about 370 acres of arable, feeding some dozen families. The known crops of the British Early Iron Age were eincorn, emmer, spelt, breadwheat, naked and hulled barley, and (uncultivated) oats, barley being the preponderating cereal. Beans were grown in the south-west. The introduction of spelt was associated with the technique of drying the grain in ovens before threshing. The 'square' field systems, as traced by air-photography and on the ground, chiefly on the chalk areas of the south of England, reflect, if the Welsh and Irish laws mirror the period, a régime in which the basic family unit was subdivided among the sons until the third generation. It would seem, on the other hand, that the Irish 'runrig' system of narrow strips and extreme fragmentation, recorded in Elizabethan documents and subsequently, represents a relatively late phase of that system, produced by the domination of chiefs, not the Early Iron Age system such as is reflected in the Romano-British 'square' fields and the codes. This is rendered more probable by the resemblance between some of the Irish pre-'runrig' patterns, traceable back

[1] H. Helbaek, 'Early Crops in South Britain', *Proc. Preh. Soc.*, XVIII, 2, 1952, pp. 194–233. Cf. H. Helbaek and K. Jessen, *Cereals in Great Britain and Ireland in Prehistoric and Early Historic Times*, 1944.

[2] *Proc. Preh. Soc.*, XX, 1, 1954, pp. 103 sqq.

to the Bronze Age, and English downland 'square field' complexes, e.g. that in the Ashley–Westwood area of south Wiltshire. While the Little Woodbury farm seems to have cultivated about 30 acres, the average Irish 'quarter', containing four to six farms, covered about 300 acres, corresponding to blocks of Romano-British fields in Sussex, where an average of 250–300 acres per village could be calculated.[1]

In the Belgic period certain agricultural advances are traceable. While previous cultivation was mainly confined to the permeable chalk and limestone soils, Belgic settlement began to invade the medium loams and the stream-sides; an improvement of grains is noticeable, a larger ox and horse make their appearance, hides and grain are exported.[2] Farms begin to be sited with an eye to corn-production and communications, and are sometimes worked with slave labour. The heavy plough with broad blade is now found, possibly but not certainly with coulter and wheels, and some examples of ridge-and-furrow fields occur, also fields somewhat larger and longer than in the previous period. Iron tools in general became more abundant in the west and south in the last century B.C., but it was the Belgae who introduced the 'slip-eye' axe. With the Roman conquest, the Belgic *aedificium* or grain-cattle farm formed the first basis for the villa, but the British 'square field' system continued in the uplands and expanded, being associated both with isolated farms and with larger village units.

III

The Roman conquest did not fundamentally modify the areas in which cultivation was concentrated; these remained predominantly the porous chalks and limestones; however, the Belgic development of the loams (the "gradational" soils of Sir Cyril Fox),[3] which combined maximum fertility with ease of clearance, continued in the Roman period, and a careful statistical site-survey of Kent, Essex, and Berkshire shows the striking preference of villa-owners for these soils, likewise for the margins between gradational and

[1] For the 'Celtic' field system, see O. G. S. Crawford and A. Keiller, *Wessex from the Air*, 1928, *passim*; Ireland: F. Seebohm, *The English Village Community*, 1896; A. Meitzen, *Siedlung und Agrarwesen der West-Germanen*, 1895, I; Hogan in *Proc. Roy. Irish Acad.*, (c), XXXVIII, pp. 176 sqq.; O'Ríordáin, *Proc. Roy. Irish Acad.*, XLVI, pp. 142–5, 175 sqq.; Ashley–Westwood: O. G. S. Crawford, *Air Survey and Archaeology*, O.S. Professional Papers, N.S., No. 7, 1924: End Map ii; Sussex: Holleyman, *Antiquity*, XI, 1938, pp. 443 sqq. and fig. 84. Cf. *Proc. Preh. Soc.*, XX, I, p. 112, n. 2.

[2] A factor which seems to have escaped the attention of archaeologists is the close connection between the introduction of the potter's wheel (first century B.C.) and the increased ability to store large quantities of grain.

[3] *Antiquity*, VII, 1934, p. 473.

heavy clay soils, i.e. the edges of woodlands, indicating that the latter now began to be cleared. In central Essex two well-known parallel Roman roads coincide precisely with the medium loam area, and would seem to represent large-scale deforestation followed by systematic grid-parcellation ('centuriation'). There is some archaeological evidence for assigning this work to the Flavian period, and the unit of measurement used may have been a Belgic one, possibly reflecting an adjustment of native rights with those of new settlers.

Our acquaintance with Romano-British crops has been much increased by the work of Messrs Helbaek and Jessen: the identified grains are *triticum vulgare*, *triticum sativum*, barley, oats, great millet (one isolated find), *triticum turgidum* and *compactum*, spelt, possibly emmer, and rye. Spelt is now a principal crop, and the oat, previously grown but probably not as a cultivated plant, is well established: it is found preponderantly in the north, where its spread is likely to have been encouraged by the introduction of Roman cavalry. Its presence may have contributed to the development of a three-course rotation. Wheat is distributed over most of the occupied area, but barley still competes: Roman site-distribution in Kent, for example, coincides more closely with the areas known for high barley production than with those producing much wheat. Villa-groups also coincide with barley soils in north-east Hampshire; in Essex, Surrey, and west Sussex, on the other hand, there is a close correlation between villa-siting and modern wheat-growing. The spread of wheat in the Roman period is indeed specifically evidenced by its introduction into the newly colonized areas of the East Anglian fens. The grain-finds at Verulamium (*trit. vulgare*, *compactum* and *turgidum*, oats, spelt, beans) may well reflect a winter-spring crop-sequence, implying a three-course rotation, such as is known to have been practised on Carolingian estates where the system of farming went back to Roman times.[1] The grains found at Malton, Yorkshire, on the other hand (various wheats, probably including spelt; barley, emmer, clubwheat, *avena strigosa* or *sativa*), included a majority of summer grains, reflecting what was long afterwards the widespread northern infield and outfield arrangement.[2]

Other known Romano-British plant-finds include the cabbage, broad-bean, parsnip, pea, radish, turnip, celery, carrot, mustard, vetch, tare, and corn-spurry. Flax is now introduced. Several potherbs are found. Turnip and rape were both used as cleaning crops in Gaul, and fed to cattle, and this

[1] See below, p. 82, n. 4.

[2] On this agricultural pattern, see H. L. Gray, *English Field Systems*, 1915, Ch. v; cf. Estyn Evans, *Irish Heritage*, 1942, p. 7.

may well have been the case also in Britain. Their growing would have depended on freedom from an open-field system, and have been peculiar to private estates able to enclose; the wintering of cattle in villas is well evidenced (see below). Fruits known from the Roman period are the cherry, medlar, plum, damson, bullace (probably domesticated), apple, and mulberry; among flowers, the rose and (on philological evidence) the lily, violet, and pansy. Although the cherry is specifically stated to have been introduced into Britain in A.D. 47, a specimen has actually been found in Britain in a Middle Bronze Age context. The vine, evidenced in the Roman period at Silchester, Tooley Street (London), Boxmoor, and Gloucester, possibly had already been introduced by the Belgae;[1] the fig and almond are also known. Trees first found in Britain in the Roman period are the Spanish chestnut, horse chestnut, sycamore, walnut, holm-oak, and possibly the Spanish laurel. The box, found at several sites in funerary deposits, was not a Roman introduction, but may have been encouraged for this and other uses.

IV

The problem of the Romano-British field system is closely bound up with the character of the ploughs used during the period. As already stated, pre-Roman fields continued in use over wide areas, and the system even expanded; hence clearly the small pre-Roman plough (like that of the Piercebridge model) also went on being used. The evidence of shares and coulters shows, nevertheless, that several types were used in the province; some, coulterless, had double ground-wrest and arrowhead share, ploughing one way; some, likewise without coulter, (apparently) a reversible mould-board for two-way ploughing,[2] and were possibly drawn by beasts in line ahead; others a symmetrical share turning the soil simultaneously to right and to left.[3] Both the latter types would imply the formation of strip-fields. There was also in use a plough with large coulter cutting from six to twelve inches, and high-pitched plough-beam. Most of these coulters engaged to the left,

[1] Wine was being imported by the Belgae.—Fox in *Proc. Preh. Soc. E. Ang.*, VII, 1941, p. 160 and pl. v, 6c. The vine appears on the coins of Verica.—J. Evans, *Ancient British Coins*, 1864, p. 173, pl. ii, 9; cf. Stevens in *Aspects of Archaeology in Britain and Beyond* (ed. C. W. Phillips), 1951, p. 342 and n. 75.

[2] The Lewes model, *Arch. Jour.*, CIV, 1948, p. 97, pl. 8, whose slots at the base of the stilt were perhaps for reversible mould-boards. A share from Hartlip, Kent (C. Roach-Smith, *Collectanea Antiqua*, 1848, II, pl. vi, 8), resembles an example on a model plough from Cologne (K. Schumacher, *Der Ackerbau in Vorrömischer Zeit*, 1922, pp. 20–1, Abb. 10), which is set to turn the furrow-soil to the *left*.

[3] The Frindsbury share.—*Arch. Cant.*, XIII, 1871, pl. ii, p. 190, fig. 1. Cf. M. Nightingale, *ibid.*, LXV, 1952, p. 156, pl. 1; p. 157.

so (presumably) raising a ridge, but one such appears to have engaged to the right, suggesting that alternating coulters were used to avoid ridging. This would also suggest that large fields were sometimes ploughed by two joint ploughs working narrow sectors divided by drainage furrows. The symmetrical share mentioned above was found in the Cliffe district of north Kent, where Roman allotments into square *centuriae* have been traced;[1] these appear to have been subdivided into strips of some five *iugera* or three acres, possibly corresponding to the old French *bunnier*, to be found on Carolingian estates originating in Roman times. The Cliffe fields, which lay on heavy loam, were ridgeless, and although there is no doubt that ridge-and-furrow fields existed in Roman Britain, the big coulters referred to earlier need not inevitably have raised ridges, since ploughing techniques exist whereby ridges can be avoided even by non-reversible ploughs.[2]

While 200-jugera squares subdivided into strips have been detected in the Cliffe district, a fragment of field-system attached to the villa of West Blatchington, Sussex, and revealed by air-photography and excavation,[3] although laid out as a chessboard 'grid' system, consisted of a mosaic of small squarish plots of varying sizes, more 'Celtic' in character than Roman. This system originated at the end of the second century, contemporarily with the erection of a house of 'basilican' plan, replacing an earlier farm of native type; the site yielded evidence of intensive corn-production. Another basilican villa at Eastfield near Thruxton in Hampshire, on the other hand, was associated with a 'Celtic' field-system, which however appears to have undergone a partial revision at some date, larger strips being adopted.[4] This revision seems to have been part of a process extending over a larger area. An inscription on a fourth-century pavement from this house coupled the name of a Roman citizen with a Celtic name, either of a person or a group.

The King's Worthy villa, Hants, was shown by air-photography to have replaced an Early Iron Age farm.[5] It seems to have superseded a 'Celtic' field-system with a different pattern, probably composed of long strip-like fields. A villa at Bury Lodge, Hambledon, Hants, was associated with several long-strip lynchet fields, from 700 to 1,200 ft long. By contrast, the fields of the Little Milton villa, Oxfordshire, were small and squarish like those seen

[1] Stevens and Nightingale, *loc. cit.*, pp. 150–9.

[2] P. Leser, *Die Entstehung und Verbreitung des Pfluges*, 1931, pp. 8 sqq.; Abb. 2 and 3.

[3] *Suss. Arch. Collns.*, 89, pp. 1–56; Air Ministry Photograph 4110, 20 April 1950, which I was able to examine thanks to the courtesy of the Archaeological Section of the Ordnance Survey, Chessington.

[4] Air Ministry Photograph 2097, 30 Aug. 1946, examined by courtesy of the Ordnance Survey Archaeological Section.

[5] The photograph was shown to me by courtesy of Commander W. H. C. Blake.

at West Blatchington; it is possible to demonstrate that they were modified at a later period, some fields being enlarged.[1]

At Great Wymondley, Herts, the open-field system surviving till 1821 was laid out on a Roman road and surrounded the Roman villa.[2] This medieval pattern showed clear traces of a Roman grid-division into 200-jugera squares. The medieval strips could be demonstrated in a number of cases to be subdivisions of the Roman *centuriae*, averaging some 750 by 230 ft. A Romano-British village near Great Wymondley church, within this area, seems to have been evacuated in the later second or third century, when the villa was built, and the layout may have originated at that date. It may be of interest to note that the fields of Great Wymondley manor belonged, in the Middle Ages, to the two-field system.

A summary of the above evidence shows that Great Wymondley, Bury Lodge in the Cliffe district, and Eastfield had fields of two approximate sizes: viz. 600–700 by 230–250 ft, and 1,200 by 200–330 ft respectively. Fields corresponding to both these classes can be cited from other points in Hampshire and Sussex. It is notable that such fields are distributed equally among measured 'grids', on unmeasured arable, and on terraced slopes. The evidence therefore agrees with that of Romano-British ploughshares and coulters, indicating that the Romano-British field, when it was not of the 'square' Early Iron Age type, was a broad strip, not necessarily ridge-ploughed. But the 'square field' system is occasionally associated with villas in Hampshire and Berkshire.

V

Known Roman agricultural tools in this country include the sickle, the billhook (or 'slasher'), the two-hand scythe, the mower's anvil, the pruning hook (frequently difficult to distinguish from the small scythe), the hoe-rake, the mattock, hoes and spuds of various types, the rake, iron spade, iron fork, turf-cutter, ox-goad, carding comb, and axe. The use of carts is evident at various villas. Of the above tools, the Romans introduced the balanced sickle, the two-hand scythe, the mower's anvil, the hoe-rake, the turf-cutter, the mattock, the iron rake, fork, and spade. The slip-eye axe also became common only after the Roman conquest. The most important of these innovations were the two-hand scythe, which made possible the close-cutting of hay and other fodder crops, and the iron spade, which would have had an important impact on field-drainage. There is further evidence that

[1] *Jour. Rom. Studies*, XL, 1950, pl. vi, and p. 102; Photograph, Cambridge University, O.61.

[2] The map of these fields is reproduced by Seebohm, *Eng. Vill. Community*, facing p. 432.

the Romans introduced the water-mill and greatly superior querns into these islands.[1]

VI

It is more difficult to establish the degree of amelioration of livestock in the Roman period, since much remains to be done in the study of animal remains found on Roman sites. The Romano-British sheep was of a breed resembling the modern Soay, known since Neolithic times, and termed *Ovis aries Studeri*; its female was for a long time erroneously identified as a distinct race, termed *Ovis aries palustris* or the 'Turbary'. A specimen possibly of a different, larger, breed has been noted at Barr Hill, Scotland. The Studer was bred essentially for wool, and was the source of the extensive Romano-British wool industry in the later Roman period. Mutton was less favoured than beef or pork as the diet of the Roman forces in the province, but sheep bones were better represented at Barr Hill, held by a Syrian unit, and at Corbridge, where there is evidence of an oriental element in the population. The absence of the liver-fluke in salt water probably explains the Romano-British settlements situated on the fringes of the Essex and Kent salt-marshes, which may well have been devoted to sheep-rearing.

Goats are well evidenced throughout the country, both a small short-horned breed and a type allied to *Capra Ibex* being found.

The preponderant race of cattle was *Bos longifrons brachyceros*, resembling the Kerry cow or Irish shorthorn, widely found on both pre-Roman and Roman sites. Remains of larger animals have been regarded as the result of cross-breeding with imported Roman cattle, but a larger animal already occurs in the Belgic period. At Newstead and Corbridge a race resembling the modern 'Chillingham' was noted. Dr Wilfrid Jackson further isolated at several sites a long-horned animal possibly akin to the Neolithic cattle, and to be connected either with *Bos primigenius* or with a hypothetical Megalithic (southern) group. The parallel existence of shorthorn cattle and animals with long erect horns is independently attested by escutcheons and bucrania of the Belgic and Roman periods. In this country, beef was the preferred meat ration of the Roman army, which had at least one cattle-depôt of its own, and evidence for the increase of cattle-rearing in south Britain in the third and fourth centuries is well marked.

The horse, not widely employed in agriculture in ancient times, was nevertheless used for threshing, harvesting, and transport, and to round up free-ranging cattle herds bred for meat and hides. This latter use is doubtless

[1] Watermills: J. C. Bruce, *Handbook of the Roman Wall*, ed. I. A. Richmond, 1947, pp. 80, 147, 166. A donkey-mill: *London in Roman Times* (London Museum Guide), 1930, pp. 109, 110. On the evolution of querns, *Antiq.*, XI, 1938, pp. 140 sq.

the explanation when horse- and cattle-bones are found together in quantities as they have been at some villas and farms.[1] The predominant remains, known from the Early Iron Age onward, are those of *equus agilis* and *robustus*, somewhat resembling the New Forest Pony; but at one or two sites a larger breed, possibly imported, appears in the Belgic period. At Newstead, Scotland, more complex finds suggested, besides *equus agilis* and *robustus*, the presence of crosses of two varieties of *equus agilis*, an Arab breed, and cross-breeds of several varieties traceable to Gaul and Germany. Corbridge also yielded a larger race thought to be a Roman introduction. An inscription from Irchester, Northants, is probably to be interpreted as evidence of local governmental horse-rearing.

The ass is found at one or two sites, including a villa. The presence or absence of mules, common in Gaul, remains an uninvestigated problem.

The remains of pig found on Romano-British sites show that pigs were kept on a large scale in romanized farms, being closely associated with woodlands; and evidence of grain-fattening in sties is available at several, in two cases within communicable distance of the legionary base at Caerleon, where pork was consumed only less than beef.[2]

The domestic fowl, though occurring at some Belgic sites, was introduced as a bird of economic value by the Romans, and is found widely, though not everywhere. One distinctive biggish variety is known, and other specimens possessing developed spurs were evidently bred for cock-fighting.

The domestic goose was also a Roman innovation, and has been found at various places; a specific British variety, the Cheneros, is mentioned in the Flavian period. The pheasant too is first found under Rome.

Pigeons are recorded from a few sites, and though their dung was recommended by Roman agricultural writers, it cannot be proved that they were widely bred in Britain.

VII

We now turn to the buildings of the Romano-British farm. The main residence of the Romano-British villa can be traced to a combination of two ancient plans: the first is the so-called basilical or barn plan, a long hall divided into nave and aisles by two parallel rows of posts; the second, a two-room dwelling, one part of which housed the family, the other the livestock. The basilical type appears in ancient Irish and Welsh literature and is found, for example, at Tara in Ireland; it survives in Frisia, and as a self-contained farmhouse containing men, crops, and animals, was common in medieval

[1] Rockbourne Down, Hambleden (Bucks), Appleton (Norfolk).

[2] Pitney (Somerset) and Woolaston Pill (Glos.).

Germany.[1] The two-roomed type, found, for instance, in the Early Iron Age in Scandinavia, is still to be seen in Scotland and Wales. It is traceable among Roman houses in Britain, Gaul, and Germany, usually as an outbuilding for hands and crops, sometimes as an independent farmhouse. The 'basilican' house appears in Roman Britain and in the north-west provinces of the empire, sometimes as an independent farm, sometimes as the quarters for hands and livestock attached to the residence of the owner. The residence, normally a 'corridor' house, originally developed from a fusion of the two older types, i.e. a two-roomed building containing one or more rows of posts, to which wings and a frontal verandah were later added. (This process is clearly traceable in Germany.) In course of time the large 'hall' shrank to one of a series of rooms behind the verandah, and the flanking rooms, which first served for stock, storage, etc., were converted to residential uses, their economic functions being transferred to outbuildings. In Britain the dwelling-houses of most villas soon became purely residential, and the relegation of agricultural tasks to outbuildings was correspondingly rapid, which spells a less patriarchal and more sharply divided society.

This is not true of the independent basilical house. Though this type is certainly pre-Roman, no proven pre-Roman case is known in Britain, and none of the Roman examples can be dated before the second century, while most belong to the third or fourth centuries.[2] Three cases at least were associated with the 'Celtic' field system; the West Blatchington example, as we have seen, was erected in association with a new field system of Roman pattern but containing small plots recalling the 'Celtic'. Another case at Tidbury Ring, Hants,[3] lay within a hill-fort, in this resembling a Dark Age example (sixth to seventh century) excavated within the hill-fort of Castle Dore, Cornwall. In some cases, basilican houses, originally self-contained, were later subdivided into rooms for residence and their quarters for hands, stock, and crops relegated to outbuildings.

[1] On the 'basilican' house, see I. A. Richmond, *Jour. Rom. Stud.*, XII, 1922, pp. 96 sqq.; Ward, *Rom. Era Brit.*, pp. 174–82; Seebohm. *op. cit.*, pp. 239–42; C. Guest, *The Mabinogion*, 1849, II, pp. 393–5; *Germania*, XX, 1936, pp. 41 sqq.; Meitzen, *op. cit.*, I, p. 95; *Jour. Royal Inst. Cornwall*, 2nd ser., I, 1951, pp. 60 sqq. On the 'two-room' dwelling, *Antiq.*, XI, 1938, pp. 162 sqq. (Jutland); A. Grenier, *Manuel d'archéologie préhist. gauloise et gallo-romaine*, VI, 1934, ii, p. 750; R. de Maeyer, *De Romeinsche Villas in Belgie*, 1937, *passim*; *Germania*, V, 1921, p. 65; *Arch. Jour.*, CIV, pp. 55 sqq. (Iwerne); *Antiq.*, X, 1937, pp. 448–59 (Wales).

[2] Early instances at Park Street, Herts (*Arch. Jour.*, CII, 1946, p. 24), and Knowl Hill, Berks (*Berks Arch. Jour.*, XXXVI, pp. 28 sqq.; XXXVIII, pp. 75 sqq.), are hardly convincing. It is difficult to accept some of the cases defined as basilican by J. C. Berry (*Jour. Rom. Stud.*, XLI, 1951, pp. 25 sqq.).

[3] As revealed by an air-photograph kindly shown to me by Mr F. Cotterill. Cf. *Proc. of the Hants Field Club*, XVI, 1951, p. 38.

VIII

The evidence of Celtic literature and of archaeology (e.g. in Frisia) shows that the basilican house originated among a cattle-rearing people, the stock being housed in the aisles. Basilican buildings were certainly used to house cattle outside several Romano-British villas. This and the study of Flemish farm-types closely comparable to Belgian villas, as well as comparison with the dimensions found in old Irish and Welsh farms, prehistoric steadings, and the outbuildings of Roman villas both in Britain and abroad, enable us to identify cow-houses and stables in various villas in this country. These prove that in some of them (e.g. Bignor, Hartlip, Spoonley Wood) considerable herds of cattle were maintained in winter.

Professor Hawkes's careful study of the evolution of the Cranbourne Chase farms, which were essentially of Iron Age character, showed that their economy in the later Roman period suffered the important modification of the addition of wells (unknown in the pre-Roman period), the increase of cattle-enclosures, and the installation of corn-drying furnaces. The significance of these changes was that the water-supply made it possible to winter stock in the farms, with consequent increase of manure and rise in yields. Fully romanized farms, on the other hand, show a devolution of agricultural functions into outbuildings, which are placed round one, two, or even three yards. The early appearance of fully developed 'corridor' houses (e.g. Ditchley, Bignor) indicates a rapid economic development. A general feature is the attention to water-supply, while the provision of a separate yard enabled stock to be kept close at hand and manure to be accumulated. The erection of byres, stables, and sties aided the latter process and improved the health of the stock. In some villas, a close association between barns for hay or grain storage and the stock buildings is noticeable (Bignor, Brading, Pitney, Hartlip), indicating the presence of a grain surplus for fodder, and possibly the use of legumes and roots for feeding.[1] At Bignor and West Dean (Wiltshire) water-meadows almost certainly played a part in the fattening of cattle. Part of the flock also seems to have been wintered at Bignor. At Pitney a connection is seen between pig-sties and grain-storage, indicating systematic fattening, also evident at North Wraxall (Wiltshire), Woolaston Pill, and possibly at Hambleden (Bucks).

[1] A calculation of total manure available at the Bignor villa on the basis of the livestock accommodation, checked against granary capacity, ox-stalls, and the natural boundaries of the estate, suggested an approximate dunging of 28 cwt. per acre annually. On the other hand, farmyard manure available for concentration (including human sewage) amounted to 12,000 tons per annum, which, in view of the evidence for the wintering of some 12 ox-teams and 55 head of other cattle, is in favour of its use for the growing of root-crops.

In some villas a degree of specialization may be supposed. Woodchester may have had a brewery; it is generally thought that Titsey, Darenth, Chedworth, and perhaps Hucclecote, had fulleries, and some farms in Kent and Essex are sited in a manner suggesting that they combined flock-grazing in salt-marshes with other branches of husbandry—in Essex perhaps also with oyster-rearing. A number of estates certainly supplemented their economy with industrial activity.[1] Grain-production, however, became predominant in the third and fourth centuries, as shown by the discovery in various country houses of drying furnaces whose insertion is frequently secondary and late, in a manner suggesting a lowered standard of living and brutal utilitarianism, perhaps under pressure of the state.[2] Such a theory is supported by the occurrence of some of the earliest examples at Woodcutts (second century) on what is believed to be a crown domain, and at West Blatchington, where the laying out of planned fields (second to third century) suggests state action.

The study of villa development from a sociological point of view reveals three stages. These are: first, centralization, in the sense of the concentration of man-power (slaves, clients, kindred) and means on one estate; this is most clearly exemplified in the self-contained basilican villa, which housed the chief and his kinsmen. As most of these dwellings belong to the late second and third centuries, their appearance suggests a legitimization of the Celtic social structure and its integration into the villa system in such a manner as to subordinate kindred to their clan-head in the capacity of an estate owner. This hypothesis would explain the resurvey and redivision at West Blatchington, in the Severan period, attributable to state action; it has been noted that the Eastfield house was associated with 'Celtic' fields, later modified.

The second stage is one of residential decentralization, hands and agricultural functions being transferred to outbuildings ranged about the yard (e.g. Ditchley, Clanville, Stroud, Brading, Mansfield Woodhouse). The further association of basilican houses with 'corridor' residences as outbuildings for hands, stock, and crops, suggests that kinsfolk and clients, rather than slaves, were the victims of the growth of centralized estates and social differentiation.

The third stage is devolution, the restriction of staff and stock accommodation, implying the out-settlement of slaves or hands in colonate hold-

[1] For a summary of the relevant evidence, see J. Liversidge, *Roman Villas in Britain*, 1949 (MS., Cambridge University Library).

[2] This explanation was first proposed by Mr R. G. Goodchild, *Ant. Jour.*, XXIII, 1944, pp. 148 sqq.

ings. This is illustrated at Ditchley, perhaps at Hartlip and North Wraxall; I have also found indications of peripheral holdings dating from the late Roman period in the Basingstoke district.[1] At Stroud and East Grinstead bath-accommodation in excess of the house's needs, and other factors, showed these farms to have been part of large estates. Traces of a Roman survey embracing several villas in the Andover district are probably also to be interpreted as evidence of a large domain. The Wiggonholt villa (Sussex) is closely associated with three or four minor sites which are explicable as tenancies, and Bignor villa occupies the centre of a tract which contained several subordinate sites in its western half. The land of Great Wymondley was systematically subdivided at a given period (third century?) presumably to accommodate tenants. Absentee proprietors seem to be indicated at Gayton Thorpe, and at a late stage at Llantwit Major. The 'barbarous' character of the late phases of occupation in many villas (e.g. Atworth, Great Witcomb, Stanton Chare) may sometimes betoken the breakdown of an economic system, when slaves or tenants remained on the estate after the proprietors had retired or fled; in some cases it may represent mere squatting after complete evacuation.

IX

The continuity of occupation from native farm to villa, now known at various sites, shows that a proportion of the villa-owners were Britons, and it is recorded that both the Emperor Claudius and Seneca lent large sums of money to British notables; as the urban development was then still to come, these sums may be presumed to have been lent for agricultural development. Round Basingstoke there is some abandonment of native sites between A.D. 50 and 100, Roman villas appearing there between 60 and 70, and this is the period of their origin in many other areas. At this time a fusion of pottery-styles in the Surrey area indicates growth of population, and various hill-forts are abandoned up and down the province. Some rural temples (Frilford, Weycock, and Lowbury if one agrees to classify it as a sacred enclosure) now come into intensive use. The Flavian deforestation of central Essex has been alluded to, and to this time also belongs the settlement of the Fenland marls of Cambridgeshire and East Anglia; both projects may well have been state concerns.[2] There is a hint that by

[1] *Proc. Hants Field Club*, XVIII, ii, 1953, pp. 126–7.

[2] The two projects are perhaps alluded to by Galgacus in his famous speech (Tac., *Agric.*, 31) in the year 84: "manus silvis ac paludibus emuniendis . . . conteruntur." The first to suggest that these words were not simply rhetorical was, as Mr C. E. Stevens reminds me, W. Dugdale, *History of Imbanking and Drayning*, 1662, pp. 16, 17. It is of interest that Vettius Bolanus,

this time the state cadastral survey of the province had been completed.[1]

The prosperous era of town life between the later first century A.D. and the third century is certainly bound up with the growth of prosperous estates owned by the urban aristocracy, and parallel conditions of development can be archaeologically demonstrated between Verulamium and its hinterland on the one hand, and between Cirencester and its hinterland on the other. Many country houses, some the centres of large estates, were founded in the second century, and in Surrey a number of village sites have been shown to have been evacuated in the early years of the century, evidently to make room for villa-estates. Burial customs in eastern England suggest that wealthy land-holding immigrants came thither from central Belgium in the later first and early second century. In the second century agricultural intensification is evident in Somerset, in Cranbourne Chase, and at such points as West Blatchington, Park Street (Herts), and Bignor, while heavy Romano-British ploughshares are found as far afield as Lowland Scotland.

The Severan age witnessed some displacement of villa-owners by civil war, and initiated a determined attempt to increase the production of the province both in agriculture and in other spheres. New estates were founded —displacement of peasants for this purpose is traceable in Suffolk—and the new villas sought the margins of the heavy soils for purposes of corn-growing. Cults in Cambridgeshire and Essex in the later second and third centuries bespeak the entry of new elements from Belgium and the Rhineland; new estates in Gloucestershire also evince links with Belgium, Gaul, and the Rhine valley. The development of villas in western Somerset is likewise intensive. The possibility of some significant social change in land-tenure at this epoch has already been mentioned, in the form of the transformation of chiefs into landlords of their kin. The traces of this process are still slight, but the notion of continuity between native kinship units and certain villa-estates gains some support from the areas of arable attached to the latter, in so far as these can be tentatively calculated from their ox-stalls, granary capacities, and natural boundaries. Thus Eastfield would seem to have cultivated some 320 acres, three other villas in the Andover district 380, 270, and 340 acres respectively, North Warnborough 250 acres, Pitney 312, Stroud 187, Wiggonholt 370, Cherington 300, Rodmarton 240, East Grinstead 230, Callow Hill 300. These areas recall the Irish 'townlands'

Vespasian's first British governor (69–71), is referred to by Statius as an energetic land-surveyor and clearer of forests—a citation I owe to Professor E. Birley, *Roman Britain and the Roman Army*, 1953, p. 15. But Julius Frontinus (governor 75–8) also had a reputation as surveyor.

[1] *Trans. Lon. and Middlesex Arch. Soc.*, 2nd ser., X, 1951, p. 226.

(*c.* 325 acres average), Figheldean Down (370 acres), and the already cited averages of Romano-British villages in Sussex (300, 252, 304 acres).[1]

The later second- and third-century villas show signs of economic growth and increased production (Bignor is a striking example). In this period cattle enclosures at Rockbourne Down and elsewhere, and the appearance of fulleries at several villas, point to an expansion of cattle- and sheep-rearing. Such intensification may have been encouraged by the contemporary inflation of the currency, which increased the value of material produce, and by the German invasion of the Rhineland and Northern Gaul, the loss of whose production Britain would have been called upon to make good. But in the second half of the century some country houses show symptoms of disturbance. Ditchley, Saunderton, Magor, Park Street, and other villas are abandoned, and in Gaul peasant discontent leads to the rebellious movement of the Bagaudae. The Emperor Carinus, who reigned only one year (A.D. 285) and suppressed these risings,[2] left milestones at Bitterne (Southampton) and near Andover, where traces of a large (imperial?) estate are to be detected. Some coastal villas were evacuated in the face of attacks by the Irish and Saxons towards the end of the century.

Constantine's reconquest of the island involved disorder and expropriation, but was followed by another great restorative effort. The number of villas now rehabilitated indicates government assistance. Generally, the agriculture of the province continues stable, and literary evidence indicates that Britain was regularly exporting grain to the continent; this is borne out by the grain-drying furnaces now widely to be found in villas, and perhaps to be connected with the increased need of drying wet-cut crops in a deteriorating climate, under pressure of state demands. There is however a general impression of lowered standards of living and absentee proprietorship. At Ditchley the last rough fourth-century occupation is characterized by intensive corn-production, but the absence of drying furnaces at the villa could be explained if they were present in surrounding tenant holdings, while the neglect of the residence may imply that Ditchley had now become absorbed into a larger estate (? Northleigh).

Evidence is now found, as we have seen, for the out-settlement of *coloni*. The colonate in Britain is mentioned in the Theodosian Code, and there existed in the province the main constituents which made for its growth and

[1] Larger estates naturally existed: e.g., Bignor, 1,900 acres; Ditchley, 1,000 acres; Cromhall, with a huge granary, perhaps 2,000 acres or more. Woodchester must have been the centre of a very large farm indeed. Some sites in the Andover district would appear to have possessed tracts of approximately 600–900 acres.

[2] Eutropius, 9: 20.

legalization, viz. the lowered standard of town life and the concomitant increased importance of the landowning class; the existence of crown domains to serve as tenurial models;[1] the ownership of large estates by non-resident proprietors;[2] the displacement of native holders by villa-estates (e.g. Surrey, Suffolk); the abandonment of some estates, necessitating colonate settlement by the government; the increased pressure to maintain supplies; and the settlement of barbarian troops (*foederati*) and prisoners (*laeti*) on the soil.[3] The result may well have been an agrarian social picture much like that presented by the French Carolingian cartularies (e.g. that of St Remy of Reims), which record estates directly derived from Roman villas, in which demesne farms (*fisci; mansi dominicati*) are surrounded by dependent holdings (*mansi*) held by free *coloni*, *lidiles* (*laeti*), and *serviles*, who contribute heavily in produce and labour to the *mansus dominicatus*.[4] East of Reims, the archaeological map shows the *mansi* distributed in circles about the domain villas, and something similar is perhaps to be traced in the Basingstoke district in the fourth century, likewise in the Ditchley–Northleigh region. The Carolingian system is characterized by a three-course agriculture and open-strip field pattern, and the Great Wymondley evidence suggests, either that

[1] On an imperial estate in Somerset, CIL, VII, 62 (Combe Down); near Silchester, *Ephem. Epig.*, IX, 1267; a probable imperial stud-farm (Irchester), CIL, VII, 78; the *regionarius* recorded at Bath (CIL, VII, 45) is likely to have been responsible for domains in Salisbury Plain. Cf. Collingwood and Myres, *Rom. Brit. and the Eng. Settlem.*, p. 224. For the suggestion that the Fens comprised imperial property, R. G. Collingwood in Frank, *Econ. Survey of Anc. Rome*, III, 1937, Britain, p. 86, possibly confirmed by an inscription from Sawtry, Hunts, *Jour. Rom. Stud.*, XXX, 1940, p. 186; cf. Stevens in *Rev. arch.*, 110–1, 1937 (i), pp. 26 sqq. Hawkes's view that Cranbourne Chase was *saltus Augusti* is expressed in *Arch. Jour.*, CIV, pp. 11–12.

[2] A "clarissima femina" who was a *civis Dumnonia*, buried at Salona at the beginning of the fifth century (Diehl, *Inscr. Lat. Christ. Vet.*, I, 1924–31, no. 185), must have had large estates in Devonshire to have been of senatorial rank. Her British mansion may well have been the villa at Uplyme. St Melania the Younger (383–439), who had vast domains in Sicily (*Vit. St Mel.*, 18), also held land in Britain (*ibid.*, 10).

[3] For the settlement of barbarian troops and *laeti* in Britain, cf. Zos. I, 68, 3; *Hist. Aug.*, Prob., 13; Eumenius, *Paneg.*, V, 18; Richmond in *Jour. Rom. Stud.*, XXXV, 1945, pp. 15 sqq. Cf. also the hybrid 'Roman-Saxon' pottery found in East Britain.—J. N. L. Myres in *Dark Age Britain: Studies Presented to E. T. Leeds* (ed. Harden), 1956.

[4] For such estates, see B. E. C. Guérard, 'Capitulare de Villis', *Mém. de L'Ac. de Belles Lettres*, XXI, 1857; *id.*, *La Polyptique de l'Abbaye de St Remy de Reims*, 1853; A. Longnon and B. E. C. Guérard, *La Polyptique de L'Abbé d'Irminon*, 1886–95; M. Bloch, *Les caractères originaux de l'hist. rurale française*, 1931, pp. 67 sqq. On the continuity question, A. Grenier, *Man. d'arch. gall.-rom.*, VI, ii, pp. 914 sqq.; 930–41; Arbois de Jubainville, *Recherches sur l'hist. de la propriété foncière*, 1890, *passim*; Imbart de la Tour, *Les paroisses rurales du 4e et du 9e siècle*, 1900, etc. For a more adverse view of continuity in Belgium, R. de Maeyer, *op. cit.*, pp. 236–41.

an open-field strip pattern existed there in the Roman period, or that it grew out of the surviving Roman fields. In Kent, on the other hand, Roman fields survived in the Cliffe district; in the same county Roman centres were perpetuated in the Saxon period, there is evidence of Roman-Saxon continuity in some villas, and medieval tenure has been thought to evince Celtic influences. Here the medieval farms are isolated, not nucleated, and the two- or three-field system, long thought to be absent, has recently been shown to have existed.[1]

X

When we come to attempt an estimate of the level and productivity of Roman agriculture in Britain, we must acknowledge that it involved advances over the pre-Roman system. A careful comparison of the Roman agricultural writers' works with the details of British villas shows that the Roman handbooks were being used in this country. We have further alluded to evidence for the investment of capital by immigrants from the continent. The introduction of certain new tools and techniques (the two-handed scythe, the iron spade, well-sinking, livestock buildings) meant a rise in production. The new plants and livestock introduced by Rome have been listed. Roman agriculture further understood the reseeding of meadows as part of a rotation, the three-crop course, the value of oats, legumes, and roots. It enjoyed in this country for two hundred years, at least, a stable government, a reliable judiciary, military security, and a vast improvement of communications that opened to it new markets. Yet already in the second half of the third century the towns were finding an insufficient basis for their economic activities in the rural life of the province, in the fourth century many villas were in decline, and by the sixth the chalk and limestone uplands had been drained of their Romano-British peasantry.

Civil war, barbarian invasion, over-taxation, and inflation certainly had a great deal to do with this decline, but they alone do not explain why the Romano-British rural system broke up so soon after the withdrawal of the central administration at the beginning of the fifth century. What other factors contributed to this break-up?

In the first place, the productivity of the villa system was not uniform. The system was not homogeneous, and, as we have seen, a proportion of the villas were rooted in the Celtic social structure and associated with the Celtic 'square field' system. This probably means that the highly developed Roman farming methods were restricted to a minority of the more important estates, some of which were developed by immigrant investors.

[1] By the unpublished researches of Mr M. Nightingale. I am grateful to Dr H. P. R. Finberg for this information.

Secondly, such evidence as we have (and more is needed) points to a climatic deterioration towards higher rainfall and lower temperatures in the latter part of the Roman occupation.[1] Romano-British agriculture developed the gradational loams, and only a slight increase of annual rainfall would have been required to make these soils unworkable in autumn and so occasion crop-failures in the succeeding year. Such a change would have encouraged a transition to stock-farming, for which, indeed, we have evidence, and an increased production of wheat, which is better fitted to moist conditions than barley. Further, both state pressure to produce wheat and wool, and the climatic change, would have affected the Celtic upland farming areas, sited on the permeable soils, and have upset their traditional farming pattern. This depended on a preponderance of summer cereals, whose stubble served in winter to graze the stock which fed in summer on the communal pastures. The growth of cattle-ranching and the expansion of sheep-raising in the later Roman period meant the invasion of the summer pastures by the state and the capitalist villa-owners, while the demand for winter wheat resulted in the reduction of the winter stubbles, leading to the decline of the native livestock and arable alike. Thus in the fourth century, just when increased rainfall should have encouraged intensification on the uplands, their population was on the decrease (a process hastened by the depredations of the invasion and social trouble of 367),[2] and by the tenth century, when a drier climate had set in, the move to the heavier lowland soils was complete.

In the villas themselves, moreover, there appears to have been a social break-up. Mr C. E. Stevens and Professor C. F. C. Hawkes long ago suggested that the thinning off of coin-finds in Roman villas after 367 is to be explained by a peasant revolt like that of the Gallic Bagaudae;[3] Mr Stevens

[1] For the evidence of climatic deterioration, Godwin *et al.*, *Philos. Trans.* 229B, pp. 355–6, 393; 233B, pp. 233 sqq., 275 sqq.; C. W. Phillips in *Aspects of Arch. in Brit and Beyond*, pp. 258–73; *Jour. Ecology*, XVII, pp. 14, 15; *Jour. Anthropological Soc.*, V, pp. lxi sqq.; C. E. P. Brookes, *Climate through the Ages*, 1949, p. 299. For the Dutch evidence, E. Van Giffen in *Congress of Roman Frontier Studies*, ed. Birley, 1949, pp. 399–49; Waterbolk in *Een Kwart Eewe Oudheidkundig Bodemonderzoeg in Nederland*, 1947, pp. 86–90.

[2] R. G. Collingwood (*Rom. Brit. and the Eng. Settlem.*, p. 223) suggested that "a great depopulation of the Wiltshire Downs was going on in the fourth century." This he thought "to indicate deliberate transplantation of village-dwellers to serve the policy of capitalistic landlords or a socialistic [*sic*] State." Without arguing how far the adjective "socialistic" is relevant to any feature of the later Roman Empire, we are bound to question this hypothesis, since close examination of the evidence of coins and pottery on Salisbury Plain, in so far as it has been recorded, does not confirm that occupation of sites generally died out with Constantine, as Collingwood thought.

[3] Kendrick and Hawkes, *Archaeology of England and Wales 1914–31* (1932), p. 293; cf. Collingwood and Myres, *op. cit.*, pp. 303–4.

has further pointed to a chapter in the fourth-century work, the *Anonymus de rebus bellicis*, as possibly referring to Britain in the same year; it mirrors a genuine revolutionary outbreak.[1] The social process of devolution characterizing villas at this date, in the shape of the out-settlement of *coloni*, also made for technical decline. The centralized villa could enclose its fields and maintain rational rotations, including the growing of roots, controlled pasture, and the winter maintenance of stock. The breaking up of the large estate into tenant holdings meant the devolution of farming into the hands of men who were unable to continue this régime; while concentration of hands increased the possibilities of sedition, the colonate and absenteeism (whether in the person of the proprietor or the state) meant absence of the master's eye and technical decline. There was also a debit side to Roman techniques. It is difficult to prove that livestock was to any extent improved with the exception of the horse, and lack of chemical knowledge caused a static view of the quality of soils that prevented extensive amelioration. In crops the Romans introduced club-wheat and flax, and popularized rye and oats; they may well have brought roots and legumes. But the entire range of Roman agricultural techniques was not universally applied. Part of the villa system and the upland native cultivation remained more or less at pre-Roman level, with some improvements in detail.

It is also doubtful if the population increased to any extent. An investigation of the Basingstoke district from this point of view suggested that the average population was 8–12 per square mile, rising to 20 per square mile in areas near to heavier soils, woodland, water, and communications; and Collingwood's estimate of a total population of half a million in the province may not have been far wrong. In the few cases where we can check granary capacity with ox-stalls and estate areas, we arrive at an average corn-yield of 15–20 bushels per acre, a figure supported by data from Belgium and Germany. On this production, the province would have had little difficulty in both feeding itself and exporting a surplus. How far, however, it could have met the crushing and continuous exactions of the state, is another question. It was not inadequate technique, but inequality of application that was the weak point of Romano-British agriculture. Maladministration, inflation, over-taxation, political insecurity, and the consequent social disturbances, led to economic disintegration; the increased pressure of the Empire's needs added to a factor beyond human control—climatic deterioration—hastened the process of social differentiation and technical decline. It has been claimed that the Roman villa became increasingly autarkic. This view will

[1] *Cumb. and Westm. Ant. Arch. Soc. Trans.*, N.S. L (1951), p. 76, on the *Anonymus de rebus bellicis* (Schneider), 7.

not stand up to archaeological examination of the materials and objects found in country-houses,[1] nor to the inescapable needs of certain essential products (oil, salt) to be obtained only from afar. The breakdown of security and administration therefore meant the end of the villa, and with it, the essential basis of the province's civilization. The break-up of the estates as entities had already begun with the transfer of *coloni* to peripheral holdings. Thus, if the Roman estate survived, on occasion, into the Saxon period (and it is by no means certain that it may not have done so),[2] it was as a series of dispersed peasant holdings perhaps mingled with English settlers, who continued to work its fields as a loose community in the vicinity of the ruined residence.

[1] The wide distribution of New Forest ware in villas in the third and fourth centuries is one of the facts disproving such a theory. Cf. H. Sumner, *Excavations in New Forest Pottery Sites*, 1927, pp. 83–5. Notable also is the distribution of rosette-stamped ware, datable from the latter half of the fourth century.

[2] For a reopening of the rural continuity issue, see H. P. R. Finberg, *Roman and Saxon Withington, A Study in Continuity*: Leicester University, Occasional Papers, no. 8, 1955.

Notes and Comments

THE BRITISH AGRICULTURAL HISTORY SOCIETY

The sixth Conference and Annual General Meeting of the Society was held at the Yorkshire (W.R.) Institute of Agriculture, Askham Bryan, York, on Thursday 10 and Friday 11 April 1958. Some thirty-eight members of the Society attended. The Thursday evening was devoted to two short papers on Yorkshire farming. Dr Joan Thirsk, Senior Research Fellow in Agrarian History, University of Leicester, spoke on Yorkshire farming in the sixteenth century, and Mr Harwood Long, Provincial Agricultural Economist, University of Leeds, described developments thereafter. On Friday morning Dr P. J. Bowden, Assistant Lecturer in Economic History, University of Sheffield, gave a paper on sheep farming and wool production in the sixteenth and seventeenth centuries, referring particularly to the diary of Henry Best, whose farm at Elmswell was visited later in the day. After Dr Bowden's paper, the members of the Conference spent the rest of the day on a tour of the East Riding, during which they visited the deserted village of Towthorpe, where Mr M. W. Beresford led the party, Sledmere House, where they were shown round by Mr R. N. Cardwell, the agent, and Elmswell, where Mr Michael Kirkby of the Castle Museum, York, conducted the party. The Conference was brought to a close on Friday evening by Dr S. R. Eyre, Lecturer in Geography, University of Leeds, with a paper on the significance of the upward limit of cultivation on the East Moor of north Derbyshire.

In the unavoidable absence of the President, the Chair at the Annual General Meeting was taken by the Chairman of the Executive, Mr George Ordish. The retiring officers were re-elected and Mr M. W. Beresford, Mr G. E. Fussell, and Mr Alexander Hay were elected to the Executive Committee in place of Miss W. M. Dullforce, Dr W. G. Hoskins, and Mr R. Lamb who had retired. The meeting heard with regret that Sir James

(*continued on page* 96)

ROBERT BAKEWELL

PIONEER LIVESTOCK BREEDER

H. CECIL PAWSON
M.B.E., M.Sc., F.R.S.E.

Foreword by
SIR JAMES SCOTT WATSON,
C.B.E., M.C., LL.D., D.Sc.

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The East Anglian Foldcourse: Some Queries

By ALAN SIMPSON

DR K. J. ALLISON is to be congratulated on the account of the East Anglian Foldcourse which he furnished in Vol. V of this REVIEW. The characteristics of this peculiar institution, which were taken for granted by Tudor legislators and Stuart antiquarians, were almost forgotten until they attracted the attention of a few agrarian historians in modern times; and of these only H. L. Gray had made a serious attempt to explain the customs.[1] Dr Allison's account is altogether superior to Gray's, but it raises certain questions which it would be pleasant to have answered. The object of this note is simply to direct attention to them.

The first is a question of boundaries, which is only raised for the sake of tidiness. The foldcourse region extended over Norfolk, Suffolk, and Cambridgeshire, but contemporaries never felt it necessary to be precise. Dr Allison has provided a map for Norfolk showing the distribution of some 250 townships in which these pastoral customs have been found. It would be useful to have the same service done for the other two counties. So far as Suffolk is concerned, there is plenty of evidence among the custumals of the monastery of Bury St Edmunds[2] and in the estate records of sixteenth-century families like the Bacons,[3] that an area bounded by Bury St Edmunds,

[1] 25 Henry VIII, c. 13, has a special section on the management of foldcourses in Norfolk and Suffolk. Sir Henry Spelman commented extensively on the foldcourse system in his *Glossary*, his *Icenia*, his contribution to Speed's *Theatre*, and in the legal treatise mentioned in note 1, p. 89. Pioneer modern studies of East Anglian customs, such as W. J. Corbett, *Elizabethan Village Surveys* (1897), and F. G. Davenport, *The Economic Development of a Norfolk Manor* (1906), had nothing to say about the foldcourse. The first national writer to refer to it may have been G. Slater, *The English Peasantry and the Enclosure of Common Fields* (1907), whose curiosity was aroused by the terminology of the preambles to the Norfolk Enclosure Acts. H. L. Gray, aided by Holkham records, was the first to sketch its scope in *English Field Systems* (1915), pp. 325 *et seq.* From this date the consciousness that East Anglia had distinctive pastoral customs became fairly widespread (e.g. in the writings of D. C. Douglas, J. Saltmarsh and H. C. Darby, R. J. Hammond, and S. T. Bindoff), but no one, to this writer's knowledge, had attempted to dig deeper than Gray, or to clarify his inconsistencies.

[2] e.g. "The lord ought to have a foldcourse within the manor of Hinderclay;" "The lord may grant by copy to any of his tenants a foldcourse within the manor of Redgrave and none can be levied without the lord's license."—BM Add. MS. 31,970, ff. 78, 83, 88.

[3] e.g. Bailiffs' accounts and acquittances for Ingham, Timworth, Culford, Rougham, Barnham, etc., in Bacon MSS., University of Chicago. See also Cullum, *History of Hawsted*, 1813, pp. 274–6.

Newmarket, Mildenhall, Thetford, Diss, and Ixworth was within the region; and it would be natural to expect the Cambridgeshire borders to be affected.[1]

The second question is one of historical evolution, which this writer can do no more than state. The peculiarity of the East Anglian custom lies in the privileged position of the lord of the manor: only he, or his lessee, has the right to maintain a flock of sheep. A tenant flock, of the kind that Dr Kerridge described in Wiltshire,[2] is only possible in this region on the assumption that the lord has alienated his privilege. How does one explain the divergent development? Did similar customs once prevail in both areas? Or was Spelman's instinct sounder in supposing that these Norfolk customs, like some others which he knew in seventeenth-century England, had a local origin among the early English settlements?[3] If we had to choose, most of us would probably incline to Spelman's guess, yet a casual examination of Wiltshire and East Anglian customs as late as the thirteenth century suggests there was very little difference between them.[4] Is it possible that the East Anglian foldcourse simply represents the survival and special development of a seignorial monopoly which was once widespread, viz., the exclusive right to maintain a fold?

These two questions were outside the scope of Dr Allison's article. So far as the article itself is concerned, the most original and helpful feature was his explanation of what we may call the system of "shifts and exchanges" whereby the lord got the fullest use out of his foldcourse. Hitherto there was an almost insuperable difficulty in seeing how the East Anglian field system, as usually expounded, permitted the enjoyment of a foldcourse. How could the lord utilize his feeding privileges on the fallow ground and harvest stubble of the village if the villagers conformed to no system in their sowing? The region was supposed to be one of unlimited individualism, where cropping was neither by field nor by furlong but according to every individual's

[1] Sir Henry Spelman included Cambridgeshire in his description of the foldcourse region; *Glossarium*, 1687, pp. 210–11. The Elizabethan awards at Cottenham and Stretham, analysed by W. Cunningham, suggest that a similar system may have existed there: e.g. the tenants were set free to organize a town flock "and to erect as many sheep folds as they, or any of them, shall think good, at any time hereafter, within the arable fields of Cottenham."—*Royal Hist. Soc. Camden Series*, X, 1910, p. 202.

[2] E. Kerridge, 'The Sheepfold in Wiltshire and the Floating of the Water Meadows', *Economic Hist. Review*, Second Series, VI, 1954.

[3] Add. MS. 27,403. For the attribution of this treatise to Spelman, see below, p. 89, n. 1.

[4] e.g. 'Customs of the Four Manors of the Abbey of Lacock', *Wilts. Arch. Mag.*, XXXII, p. 311, compared with references in Redgrave Court Rolls, or Thornage Extents, Bacon MSS., University of Chicago.

choice, and where an individual's holdings tended to be concentrated in one part of the village. In short, there was supposed to be no tillage plan. But Dr Allison, while not disputing the inconsequence of field and furlong in the cropping pattern, insists that there was a plan: a pattern of 'shifts' (of winter corn, spring corn, and fallow) with compensations for the individual whose land might happen within a given year to fall disproportionately in a fallow shift.

This attractive solution for the puzzle is almost certainly correct. Dr Allison was assisted in reaching it by a contemporary treatise on the foldcourse,[1] supplemented by a few other references to the practice in estate records. More evidence can certainly be found.[2] Only two difficulties about accepting this theory exist at the moment. The first lies in the claim, which we find villagers making, that they have the right to sow where they please.[3] This will have to be treated either as a deviation from the norm, or, as Dr Allison suggests, a symptom that the norm is disintegrating. The other difficulty is simply that we are far from having, at this moment, the volume of evidence which allows us to fix a custom on a whole region. When Dr Allison finds a shift-system in as many villages as he has found a foldcourse (viz. 250), the point may be considered settled.

Next, we must ask, who got the benefit of the fold (or, as it was called in Norfolk, the tathe) under this seignorial system? Dr Allison is ambiguous. At one point he remarks (rather inconsequentially, in the context): "But the tenants in some townships at least were obliged to make an annual payment for each acre that benefited from tathing by the lord's flocks." In another

[1] Add. MS. 27,403. Dr Allison does not point out that there is a marginal note attributing the authorship to Sir Henry Spelman, nor does his article refer to Spelman's observations about foldcourses in his other works, cited above. It may be, of course, that Dr Allison has mentioned these matters in his thesis, which this writer has not seen. There are striking correspondences between passages of Add. MS. 27,403 and passages in Spelman's *Glossarium*, and there are autobiographical references in the former which fit Spelman.

[2] The division of the town fields into 'shifts' is illustrated by the Stanford lease quoted below. Lists of exchanges are not uncommon—e.g. at Helloughton, a Townshend manor, a certain Thomas Fauconer had "laied of olde tyme" 18 acres and "newly laied for the Ladies course in the north fielde" a further 33 acres, for which he got 51 acres of demesne land in exchange.—Survey of Fauconers lands, 1 Sept. 1594, Safe 11 (16), Garsett House, Norwich.

[3] e.g. verdict of a Harthill (Hunworth) jury, 1634: "Wee further say that wee have hard that the ancient use and custome of the seid towne hath bene for the tennants there to encloase there lands and to sowe there winter corne att there will and pleasuer Which wee believe to be true for anye thinge wee knowe or have hard."—N.R.S. 16,473, 32, D2, Norwich City Library. At the same time, the norm had probably been represented by the following item in a Bury St Edmunds' custumal for the manor of Ingham, Suffolk: "Sowing. All tenants and inhabitants within the said manor ought to forbear the sowing of there lands there every year where the lords sheep course or fold shall chance to be the same year."—Add. MS. 31,970, fo. 91.

case, he says that when tenants were able to enclose their lands, they "lost the benefit of tathing." But, on the whole, he seems to leave this important question unanswered.

There is less evidence on this subject than one might expect, but the underlying principle must surely be that as the sheep belong to the lord, so also does the 'tathe'. No doubt there will be some advantage to tenant land from the treading and casual manuring as the sheep feed over it; but there is no reason why they should be folded over tenant land unless some special bargain has been made. Such a bargain was a regular feature of shepherds' contracts in the Middle Ages, when they were allowed to fold the flock over their holding for two or more weeks in the year; but no such concession has been encountered in the sixteenth century—perhaps because shepherds were no longer raising a crop. Nor was there any understanding that the use of tenant land—the feeding of the 'quillets' that lay in the foldcourse—would be paid for in 'tathe'; the general practice was to pay for this either in money, or in land elsewhere, or by the admission of tenant sheep into the lord's flock. What the lord did with the tathe must have depended on how he was situated. If he, or his farmer, was combining sheep-farming with corn-farming, he would naturally use his flock to fertilize his own lands. But if he was a great flockmaster with a dozen or more foldcourses like the Fermours or the Southwells in the sixteenth century, we should expect the tathe to be the subject of a bargain with the owners, or farmers, of the manors on which the flocks were feeding. One type of arrangement is illustrated by a Bacon lease of the manor of Eccles (*c.* 1606) in which the farmer assumes many of the responsibilities for the care of the Bacon flock and enjoys, in return, a stipulated amount of tathe.[1] But whatever the variations, tathe was an asset which belonged to the lord and for which there was a customary price in sixteenth-century Norfolk. When, for example, Sir Nicholas Bacon bought the manor of Stiffkey in 1570, with its foldcourse and a stock of sheep, he asked his agents what the tathe was worth, to be told that the customary price of 1s. 4d. an acre was less than its real value.[2]

Another interesting question is the extent to which the foldcourse privileges were a source of oppression. While acknowledging that the system could be mutually beneficial to landlord and tenants, Dr Allison inclines to

[1] In addition to his money rent, the farmer contracted to give the shepherd of the Bacon flocks certain corn rents, to wash and clip 560 sheep, and to supply five dozen hurdles for tathing. In return, Bacon undertook that the flock would tathe the land that was being leased to the farmer for 73 nights in the year, with the understanding that a shilling would be paid to the farmer for any night omitted.

[2] Bacon Correspondence, Garsett House, Norwich.

the view that it was greatly abused in the sixteenth century. His evidence appears to be threefold: the complaints drawn up by Kett's rebels in 1549; a petition submitted to the Queen in the early years of Elizabeth's reign by certain "poor inhabitants of Norfolk"; and a number of legal proceedings against offending landlords. No one would gainsay that Kett's Rebellion was a crisis in rural relations, even after one has noticed that its history has been as consistently written by the enemies of the landlords in the past century as it was written once by their defenders. However, it is an interesting fact that in the twenty-seven complaints of the peasants, which cover everything from the price of land and the size of a bushel to dovecotes and rabbit warrens, the foldcourse is never once mentioned. The pressure of the big grazer on the small husbandman can indeed be seen in more than one clause, and radical demands are made for excluding him from town commons and reducing the size of his operations. Nevertheless, none of the draughtsmen seems to have felt that the foldcourse privileges, as a species of seignorial monopoly, were injurious *per se*, or that any of the several sources of friction associated with them were worth mentioning, apart from the offence of overcommoning (which was not, of course, confined to the owners of foldcourses).

This silence is not found in the second piece of evidence, the "Petition"—a very interesting sidelight on Norfolk's agrarian history which ought to be published in conjunction with the records of Kett's Rebellion and the legal treatise on the foldcourse. This was another protest by independent peasants against rural capitalists, which covered a good deal of ground. The grievances included the subversion of copyholds on the grounds that they were old demesne; the abuse of foldcourse privileges; the engrossing of stock and farms; the encroachment on commons; the insistence on rents in kind; the withdrawal of land from common use by emparking; dovecotes; rabbit warrens; and the dissolution of the abbeys, with their hospitality and their old rents. The paragraphs on the foldcourse privileges dealt with some of the typical sources of friction—the denial of as many "cullet rights" as the tenants thought they ought to have (i.e. rights to put a certain number of sheep in the lord's flock), the tendency of the flocks to feed on the tenants' winter corn (a practice which had caught Tusser's disapproving eye),[1] the length of time which the flocks spent in the "shack" (i.e. the harvest stubble), and

[1] "The flocks of the Lords of the soile
do yerely the winter corne wrong:
The same in manner they spoile,
with feeding so lowe and so long.
And therefore that champion feeld
doth seldome good winter corne yeeld."
—*Five Hundred Pointes of Good Husbandrie*, 1878, p. 142.

the withdrawal of demesne from the "shack" with no compensating reduction of the lord's stock. Much the same complaints as these, with the addition of one or two others such as depopulation, were involved in the handful of cases which formed Dr Allison's third class of evidence.

Now the point is that when we have read this material we are still without any basis for a firm opinion about the scale of the abuses and the depth of the feeling engendered by them. Dr Allison believes that there was an "intensification of oppression" in the second half of the sixteenth century. How can he be sure? The evidence is surely too fragmentary to admit of anything that can be called proof. We may be confronted by nothing more serious than the perennial bickering of the countryside or the petty tyrannies of a few bad landlords. And if we assume, for the sake of argument, that the foldcourse privileges had been a source of oppression in the first half of the sixteenth century, why should we imagine that the hardships were intensified later? The ballooning of flocks, with the temptation to strain privileges, seems to have gone on before the mid-century, not after it. We know that several of the flockmasters subsided into *rentiers* after 1560; that others reduced their flocks below the top capacity of the foldcourses, or moved over from sheep-farming to cattle-grazing. We can study the records of Norfolk manors in the second half of the sixteenth century without discovering any symptom of friction, and we may wonder why, if the institution had a bad social history, Sir Henry Spelman felt precluded from hinting at it in all his interesting comments.

Other doubts may be expressed on the subject of landlord oppression. It is possible, for instance, that in a conflict between landlord and tenant there may be something to be said for the landlord, though the historians of the last generation have not always been eager to say it. The petition, which has been quoted, is far from being an unanswerable document. The object of the first two paragraphs seems to have been to prevent landlords from claiming that certain copyholds had been created out of demesne and were thereby less "free" than ancient copyhold. But it seems to have been a well-established principle in Norfolk that such copyholds (which had been created on a large scale by the heads of religious houses on the eve of the dissolution) were liable to double fines on alienation or descent, and not entitled to treat the timber on the copyhold as the property of the tenant.[1] Similarly, there is another clause in which the petitioners objected to the lords' demand of substantial corn rents (of course, as a hedge against inflation) for land which once had rented at 6d., 8d., and 1s. an acre. But was it oppression to insist on legal rights in the one case, and a higher rent in the other? Perhaps we can

[1] Townshend MSS., Garsett House, Norwich.

sympathize with hard-pressed peasants without believing that their lords were greedy cormorants.

Finally, it must always be a question who is behind a petition. The art of finding stooges in a warfare of giants is ageless. Often the victim of a fold-course monopoly was not the little man with a dozen acres and a few common rights, but the big man who had piled up two or three hundred acres of copyhold and freehold land and found himself prevented from keeping a flock of sheep. Judging from the evidence of surveys and field-books, there were not many independent smallholders in the 'champion' villages of Elizabethan Norfolk: the more typical structure was one where there were two or three big holders at the top and a lot of very little people at the bottom (shopkeepers, craftsmen, and labourers).[1] Of the big people, one would be the lord, or farmer of the manor, and cases are not unknown where the others, from some motive of rivalry or resentment, took it upon themselves to organize a petition against his "oppression." Until all the facts are known in any given case, it is only prudence to observe a little caution.

None of the foregoing remarks is intended to imply that Dr Allison has been guilty of recklessness. Their only object is to draw attention to other possibilities than those he has seen. In the same vein, it may be permitted to raise a doubt about one last topic: his interpretation of the history of infield-outfield practices in Norfolk. If I understand his position, he believes that these practices were "the creation of the later seventeenth- and eighteenth-century improvers" and "of an entirely different nature" from the infield-outfield systems which had existed from time immemorial in other parts of the country for the cultivation of infertile soils. When he looks at Norfolk's history, he seems to distinguish between three phases: (1) the traditional open-field system, persisting in the main until the seventeenth century, where there was simply one, or more, permanently cultivated field, surrounded by commons and sheepwalks; (2) an intermediate phase, where an infield-outfield system was introduced without any essential change in the husbandry. He would regard this phase as typified by the practices which H. C. Darby and J. Saltmarsh described at West Wretham, where seven outfield 'brecks' were tilled in rotation (after fertilization by the flock) while the infield was intensively cultivated. This situation at West Wretham seems to be the earliest detailed example which Dr Allison knew, the earlier references to an infield-outfield system which he found at Great Massingham and elsewhere being very vague and elusive; (3) an "improved" infield-outfield

[1] This impression is based on samples with include Stiffkey, Stody, Hunworth, and Little Ryborough. Admittedly, the surveys and dragges are only concerned with *ownership* and it is quite impossible to discover what sub-letting went on.

system, characterized by many more brecks, new rotations, the elimination of summer fallow, and, ultimately, complete enclosure. "In the late seventeenth and early eighteenth century, both heathland and open fields were completely enclosed, and the terms 'infield' and 'outfield' were widely used for the permanently cultivated closes and the periodically tilled brecks."

I have no quarrel with the description of Phase 3. My only question is, did not Phase 2 have a much older history? So old, indeed, as to have been always combined, in some instances, with Phase 1? In other words, is it not possible that places like West Wretham had had an infield-outfield system as long as there had been flocks to make periodic cropping possible?

The difficulty is in detecting an infield-outfield system in the days before adequate map-making. Surveys provide us with a tenurial map, but how much do we ever learn about the tillage map? Even after map-making had begun, it was very common to produce an excellent tenurial map without the slightest hint of the tillage arrangements: a map on which, for instance, there would be nothing to indicate whether a furlong, or a part of a furlong, lay in the infield or the outfield. Dr Allison cites a Holkham map of 1590 and North Creake map of the early seventeenth century as illustrations of Phase 1. But how can he be sure there was no infield-outfield plan which the map-maker ignored? There is a sixteenth-century map of the manor and foldcourses at Timworth in the West Suffolk Record Office which is as innocent of any boundaries between infield and outfield as Dr Allison's maps, but the ornamental legend at the foot of the map contains a reference to "infields." And there are cases of maps as late as 1690 which are purely tenurial, though we know that an infield-outfield system had existed there for over a century.[1]

Though the evidence is fragmentary, we can hardly doubt that an infield-outfield plan was in full swing in many of these villages at least as early as the first half of the sixteenth century. The evidence used by Darby and Saltmarsh for West Wretham was taken from a terrier of 1611;[2] but a lease of about 1560 of the neighbouring manor of Stanford shows exactly the same system; the farmer undertakes to crop six outfield shifts in rotation (with no more than two crops off each shift at one time) while dividing the infield into four shifts, one of which will be fallow.[3] At Ingham, near Bury St Edmunds, a farmer contracts to leave forty acres of infield in summertill at the end of his lease and as much in the outfield as shall happen in the course of rotation.[4]

[1] e.g. at Ringstead, uncatalogued L'Estrange MSS. (Box E.H.8), Norwich City Library.

[2] H. C. Darby and J. Saltmarsh, 'The Infield-Outfield System on a Norfolk manor', *Economic History*, III, 1935, pp. 30–44.

[3] Townshend MSS., Garsett House, Norwich.

[4] Bacon Leases, Bacon MSS., University of Chicago.

Other instances could be given,[1] but perhaps it will be enough to use the L'Estrange records of the manor of Ringstead to show how an eighteenth-century organization of brecks may have an old history behind it.

If we open a survey-book for this manor of the period 1720–30, we find Dr Allison's Phase 3 beautifully and meticulously illustrated—permanently cultivated closes and periodically tilled brecks. The brecks are numbered 1–11, in each of the two fields (North and South) that make up the village, and the furlongs composing each breck are plainly marked on the maps. Sometimes a breck includes more than one furlong, and sometimes a furlong is partly in the infield and partly in a breck. There are also tables to show when the brecks are in tilth and how tenants are compensated whose land has to be kept in grass for sheep feed. With this picture in mind, we can work our way backwards through the field books, maps, and surveys of the previous century and a half to see how far we can find traces of the infield-outfield system. It becomes quite inconspicuous in the sixteenth century, so far as the outward appearance of the records is concerned, but the basic features can still be found. There is, for instance, an early survey of Elizabeth's reign which precedes the earliest maps, in which we can read the following entries:

"Sheepespasture Smeeth	Another furlong more north voc Smeth between Shepeling on the east and the infield ground on the weste. . .
Shepespasture Lingestyhill	Another furlong more north called Lingstyhill: heading south upon the former: sydinge on the weste upon the aforesaid haulfe acre of Mrs Reade where the shepescourse and the Infield parts. . .
Shepespasture Middlefurlonge	. . . south upon Longestyhill sydinge on the west upon the Infield. . .
Shepespasture Greengate	. . . between the Infield on the west and Thornham mire. . ."[2]

These are furlongs in the outfield, just beyond the limits of the infield, which are fertilized by the sheep and periodically tilled. In later field books and maps they are called brecks, and they can be identified, in the survey of 1720, with the 4th, 5th, 7th, and 8th brecks, respectively, in the South Field.

This is as far back as the evidence takes us. But is there any reason, apart

[1] Thus we find the following entry in a survey for Great Massingham: "Arrable in the field in divers small pieces—lxxiij acres. In breks in the shepes pasture yerely xxv acres for somerly, xxv for rye, xxv for barley, xxv for otes—v^{xx}".—MS. 126X6: 20417, Norwich City Library.

[2] Uncatalogued L'Estrange MSS. (Box E.H.2), Norwich City Library.

from the present silence of the records, for wondering if the system had not existed long before the sixteenth century? The farmers at Stanford and Ingham seem to have been accepting customary obligations. There is nothing in the Ringstead survey, just cited, to suggest that an outfield was a recent novelty. Spelman, who certainly knew his Norfolk, took it for granted that some kind of infield-outfield system had existed from time immemorial.[1] It would be interesting if Dr Allison, in his further researches, should stumble on its tracks.[2]

[1] See, for example, the description of Norfolk contributed to John Speed's *Theatre of the Empire of Great Britain*, 1611.

[2] A survey of Redgrave, Suffolk, for 17 Edward I, refers to more than one 'wong' as being "in the breck" (Bacon MSS., University of Chicago). The term is ambiguous, but it is not improbable that the furlongs in the breck were being periodically tilled with the aid of the flock.

NOTES AND COMMENTS (*continued from page* 86)

Scott Watson wished to retire from the Presidency at the next Annual General Meeting.

Mr George Ordish in presenting the report of the Executive Committee said that membership of the Society had risen from 461 at the last Annual General Meeting to 516. He also reported that at a meeting of the Executive Committee held earlier Dr H. P. R. Finberg had been unanimously reappointed Editor of the Society's publications.

In presenting the Treasurer's Report, Professor Thomas pointed out that the accounts showed an improvement over the previous year, there being a profit of £55 13s. 6d. as at 31 January 1958, as opposed to a loss of £57 18s. 6d. the previous year. The balance at that date was £224 6s. 7d.

At a meeting of the Executive Committee held later in the day, Mr George Ordish was re-elected Chairman.

FUTURE CONFERENCES

The Annual General Meeting and Conference for 1959 will take the form of a joint meeting with the Economic History Society. It will be held at Wye College (University of London), near Ashford, Kent, from the evening of Friday 10 April till breakfast time on Monday 13 April. There will be a wide and varied selection of papers on agrarian topics and it is hoped that there will also be a tour of the College farms and an expedition to Romney Marsh.

The One-Day Joint Conference with the Association of Agriculture will be held at the Institute of Education, University of London, on Saturday 6 December 1958.

The Lost Village and the Landscape of the Yorkshire Wolds

By ALAN HARRIS

THE enquiries of the historian and the archaeologist have shown that the deserted village site is a feature of many English countrysides. It is now possible to assign a date to the final disappearance of many of these places, and to say why they disappeared. Little attention has been paid, however, to the later history of the village lands. In particular, their physical character during the eighteenth century, when widespread changes were effected by enclosure in many areas, has been virtually ignored. Yet the evidence from the chalklands of the East Riding of Yorkshire suggests that important changes in the landscape occurred in a number of deserted villages at this time, the initial depopulating enclosure having modified but not destroyed the old open landscape at some earlier period.

The wolds remained largely unenclosed until well into the eighteenth century. During the years of Parliamentary enclosure (1730–1850) approximately two acres in every three were enclosed, a higher proportion than in any other part of the Riding. The events of these years changed the face of the district. In 1850 large, hedged fields, windbreaks, and isolated farmsteads occupied what had once been portions of unenclosed arable fields, pastures, and rabbit warrens. A number of depopulated townships shared in these changes.

The sites of between forty and fifty lost villages with some wold land attached can be traced from Mr M. W. Beresford's lists.[1] It is difficult to assign an exact acreage to these, for their boundaries are in some cases obscure. Twenty-nine of them lay within parishes or townships with an aggregate area of about 30,000 acres. A total area of some 45,000 acres may not be far wrong for these villages. But the significant fact for the present argument is that at least 12,000 acres of land in these places lay open and unenclosed, in the physical sense of the term, until the age of Parliamentary enclosure.[2] In all probability, the area lying in this state was considerably greater than 12,000 acres, for a number of places known to have been in possession of open land early in the eighteenth century have been omitted from the calculation because of the imperfect nature of the data. Altogether, some twenty deserted townships are known to have been affected by late enclosure. They lay in all parts of the wolds.

Events in Eastburn and Cottam, it is suggested, may be regarded as typical of what had occurred in a number of places by the eighteenth century. In the 1660's there was a

[1] *Yorkshire Archaeological Journal*, XXXVIII, 1952.

[2] Octon, 1770, at least 900 acres (Thwing enclosure award, Registry of Deeds, Beverley); Pockthorpe, 1773, 680 acres (Nafferton enclosure award, R.D.B.); Croom, 1775, about 1,000 acres (*House of Commons Journals*, 1774–6, XXXV, 1803, p. 136); Tranby, 1796, 400 acres (Hessle, Anlaby, and Tranby enclosure award, R.D.B.); Wauldby, 1796, about 900 acres (Elloughton, Brough, and Wauldby enclosure award, R.D.B.); Riplingham, 1801, 1,400 acres (Little Weighton and Riplingham enclosure award, R.D.B.); Holme field in Wetwang, 1806, 430 acres (Wetwang enclosure award, R.D.B.); Arras, 1770–1820, about 800 acres (*infra*, p. 98, n. 9); Eastburn and Battleburn, after 1720, about 1,200 acres (Book K, 1726, pp. 49–50, R.D.B.; Southburn, Eastburn, and Kirkburn tithe papers, 1843–4, Department of Geography, University of Hull); Little Givendale, after 1750, 370 acres (Castle Howard Estate Survey, 1743–7, Castle Howard, Yorks); Cowlam, after 1780, 1,900 acres (W. Marshall, *Rural Economy of Yorkshire*, II, 1788, pp. 249, 261); Cottam, open 1706, partially enclosed by 1843–4, enclosure award 1851, about 2,000 acres (*infra*, p. 98, n. 8), P.R.O., K.R. Misc. Bks., 38, ff. 244–5, lists 200 acres of closes in 1569. There were extensive tillage lands with intermingled properties here early in the seventeenth century (P.R.O., C2 Jas. I, B22: 13).

small cluster of dwellings in Eastburn.[1] The village or hamlet consisted of four husbandmen's houses and three cottages. At some time between 1667 and 1671 at least three of the houses and possibly one of the cottages were pulled down by a John Heron and "all grounds belonging the townshipp converted into Meadow and pasture."[2] But this did not lead to a physical enclosure. In 1698 the grounds of Eastburn and its neighbour Battleburn were lying "open for Sheepe Walks . . . & . . . not devided by Fences or ditches."[3] By 1715 a rabbit warren had been planted in Eastburn.[4] The final destruction of this, and its replacement by ploughed, hedged fields did not take place until the middle of the following century.[5]

In Cottam, too, an 'improvement', in the course of which houses were pulled down and changes made in the pattern of land use, did not lead to the disappearance of the unenclosed landscape. In 1698 the Dean and Chapter of York leased their estate of Cottam (83 oxgangs of 27 acres each) to Mary Mountaign, of York.[6] Nine messuages and cottages were leased with the land. Eight years later Cottam was still a small village lying amidst its open lands: "The Township of Cottam hath within it but 92 Oxgangs of Land . . . of these 9 are Freehold . . . The Messuages and crofts with small peices of Inclosure about the Town are all included in the [rent of] 10 sh.p.Ox[gang]." But changes were in prospect in 1719. In that year the lease came up for renewal. The Dean and Chapter decided to authorize the demolition of all but four of the houses, the task to be carried out "as soon as conveniently may be."[7] A warren was planted shortly afterwards, and survived as a great tract of open ground until the nineteenth century.[8] The economy of these wold warrens would repay investigation.

It is not always easy to trace the progress of enclosure in the depopulated townships, for much of it took place without leaving any record in the form of an enrolled award or deed. Occasionally, however, some chance reference, or the survival of a plan, throws light on the matter. This is so in Arras and Cowlam.

In the 1840's Arras was owned by William Constable Maxwell, and farmed by William Stephenson.[9] In Stephenson's youth most of the 800 acres on the farm had been devoted to rabbits. There were no hedges, but a sod wall defined the outer boundary of the farm where it adjoined other warrens. Arras was described by Stephenson as being then "open to Sancton, Market Weighton and Gardham . . . there was no close or garden or subdivision fence . . . rabbits came up to the windows." This was the state of Arras until the late eighteenth century, when members of the Stephenson family began to plough, subdivide, and hedge the farm. This they achieved between about 1770 and 1820. In the 1840's almost all the estate was under the plough.[10]

[1] RAS 21B: 7, 1682–3, RAS 21B: 14, 1682–3, Borthwick Institute of Historical Research, York. There is evidence in these papers for demolitions in Eastburn at an earlier period than the one discussed here. The events of the late seventeenth century appear to have affected what was already a shrunken settlement.

[2] *Ibid.* [3] RAS 43: 4, 1698, B.I.H.R. [4] DDHO 39: 2, 1719, East Riding Record Office, Beverley.

[5] *Journal of the Royal Agricultural Society of England*, series 2, v, 1869, p. 403.

[6] S 1(1) A and C, Dean and Chapter library, York.

[7] The lease book records, in 1706, that the tenants were poor and the houses difficult and costly to maintain in repair because of the shortage of timber.

[8] Tithe map and apportionment, 1843–4 (Tithe Redemption Commission, London); enclosure award, 1851 (County Hall, Beverley). Large areas outside the warren were enclosed by 1843–4. The award of 1851 appears to have confirmed existing enclosures, extinguished rights of stray, and facilitated further enclosures.

[9] Arras and Market Weighton tithe papers, 1838–44, Department of Geography, University of Hull. Stephenson was aged seventy-two in 1842, and had lived at Arras all his life.

[10] The Tithe Apportionment gives the acreage of Arras as 874 acres, of which 825 acres were arable land.

A similar sequence of events occurred in Cowlam. In 1783 Cowlam farm contained about 1,900 acres of land, of which 1,500 or 1,600 acres were rabbit warren, about 200 acres arable land, and the remainder sheep walks.[1] The subdivision and hedging of the farm took place between 1783 and 1844, by which year a pattern of hedged fields covered the township, the warren had gone, and most of the land was under the plough.[2]

The character of the depopulated townships mentioned so far has been fairly clear: they were unenclosed, at least in large part, until the eighteenth or nineteenth centuries, and they possessed considerable tracts of warren and pasture. There existed also a number of other depopulated places about which much less is known at this period, but which were certainly unenclosed.

The grounds belonging to the hamlet of Pockthorpe were awarded to Robert Macfarland in one block of nearly 700 acres, under the terms of the Nafferton enclosure award of 1773.[3] Macfarland was to ring-fence where necessary, to separate his land from that of others. The Reverend Robert Rousby enclosed his Croom estate with the aid of an act of Parliament in 1775. Holme Field in Wetwang, which lay about the site of the village of Holme Archiepiscopi, was enclosed with the open fields of Wetwang in 1806.[4] The open arable field of Tranby was enclosed at the same time as the open fields of the surviving settlements of Hessle and Anlaby in 1796. There is evidence that open land existed in other places, but no record of the date of enclosure is known.[5]

A decision to enclose in one township affected interests in an adjacent one in several of the places mentioned. Thus Macfarland held land in Nafferton fields next to Pockthorpe, and the arable field of Tranby was farmed by Hessle men.[6] Circumstances such as these may explain why enclosure affected places at the same time. But the subject requires more attention than can be given it here.

The presence of unenclosed depopulated townships at this time is at first sight surprising, for there are numerous examples of the making of closes in such places, and at much earlier dates.[7] But when considered in the light of the physical character and land-use history of the wolds, the existence of open lands becomes explicable.

There is evidence for depopulation and conversion of arable land into pasture in a number of wold villages before the eighteenth century, but little to suggest that those responsible for these events thought it worth their while to embark upon a physical enclosure of the property. There were good reasons for their reluctance.

If, as seems likely, depopulation was frequently followed by conversion of tillage to sheep pasture and rabbit warren, a full enclosure was unnecessary. Farming of this type could be successfully pursued without subdividing the land. In the case of sheep farming a ring-fence would reduce the labour

[1] Marshall, *op. cit.*, II, p. 262.

[2] Acreage 2,013, of which 1,564 acres arable (Tithe Apportionment). No record of the enclosure exists in Beverley.

[3] For references in this paragraph see above, p. 97, n.2, unless otherwise stated.

[4] The acreage awarded was 450 acres. That this included much, if not all, of the lands once belonging to the village of Holme is suggested by Torre, *Peculiars*, fo. 1073 (Dean and Chapter library, York), which gives the area of Holme as 32 oxgangs. The acreage of the oxgang in the parish of Wetwang varied, but its average size was 15 or 16 acres. I owe the Torre reference to Mr H. Dunton.

[5] Easthorpe, 1690 (Inventory, Simon Newbald, May 1690, York Probate Registry); Raisthorpe, 1712 (Book E, pp. 51–2, R.D.B.); Neswick, 1714 (Book E, pp. 181–2, R.D.B.); Towthorpe, 1744 (Book R, p. 280, R.D.B.); Drewton, 1723 (Book H, pp. 585–6, R.D.B.); Cleaving, *circa* 1816 (Londesborough, enclosure plan, R.D.B.). But see Book F, 1717, pp. 62–3, *ibid.*, for enclosures here by a much earlier date.

[6] DDHB 30: 25 and 26, undated, E.R.R.O. (for Pockthorpe); DDHB 1: 30, *ibid.*, and P.R.O., L.R. 229, ff. 49–63, 1608 (for Tranby).

[7] M. W. Beresford, *Lost Villages of England*, 1954, *passim*.

bill for shepherding, but it was not essential. Furthermore, the attitude towards enclosure was strongly influenced by the knowledge that the wolds presented the would-be encloser with considerable problems. The local chalkstone does not make satisfactory field walls, and quickset hedges were required.[1] As the landowners of the eighteenth century found to their cost, these were not easily established on the higher parts of the district.[2] Timber for posts, rails, and gates had also to be imported into the area, for until the plantations of the later improvers began to yield there was very little available locally. The problem of fencing was fully appreciated in the age of Parliamentary enclosure, and there were attempts to find some substitute for full enclosure. The village bylaws were modified to allow seeds and turnips to be sown within the open arable fields, or the process of consolidating the scattered lands was hastened.[3] It is perhaps significant that when an enclosure was made, it was sometimes many years before the ring-fenced allotments were subdivided into smaller closes.[4] In sum, the depopulating squire of an earlier age could usually achieve his immediate end without going to the trouble and expense of a full enclosure. When changed circumstances provided an incentive, his descendant did in the depopulated township what others were doing, in spite of difficulties, elsewhere. The new landscape was created in populated and depopulated township alike.

The object of this paper has been to draw attention to the existence of lost villages on the wolds unenclosed until the age of Parliamentary enclosure, and to suggest, in general terms, reasons for their presence. Only a detailed study of individual villages will reveal the extent to which the pattern of land use was influenced by circumstances peculiar to each.[5] It is hoped that this brief article will provide some basis for such detailed studies.[6]

[1] A good contemporary account of the problem in the eighteenth century is contained in *Trans. East Riding Antiq. Soc.*, II, 1894, pp. 69 ff.

[2] Isaac Leatham, *General View of the Agriculture of the East Riding of Yorkshire*, 1794, pp. 45–7.

[3] The crops of the new husbandry were grown in the open fields of South Cave, Helperthorpe, Weaverthorpe, West Lutton, and Hunmanby during the eighteenth century.

[4] Forty years after the execution of the award (1773), there were large tracts of land in Kilham awaiting subdivision.

[5] Riplingham, for example, had a full set of open arable fields and pastures until 1801. The hamlet appears to be an example of shrinkage. There were ten dwellings standing in 1801, but foundations are known to exist near by. The pattern of dwellings in Riplingham in 1801 was essentially that of the present day. See enclosure award (R.D.B.); note-book of the commissioners for enclosure (Department of Geography, University of Hull); DDHB 35: 62, 1786, and DDHB 35: 64, 1802 (E.R.R.O.).

[6] A preliminary investigation of some of the Holderness material suggests that the unenclosed lost village was relatively uncommon there (as would be expected if the argument advanced above is approximately correct), but was not unknown. See Book I, 1725, pp. 217–18, R.D.B. (open land in Hilderthorpe); agreement to enclose, 1758, Department of Geography, University of Hull, and act for the enclosure of Hornsea, 1801, R.D.B. (open fields in Southorpe in Hornsea); Book N, 1735, pp. 436–45, R.D.B. (open fields in Danthorpe). Both Southorpe and Danthorpe had a full and orthodox set of open fields until the enclosures. But in Southorpe the lands were farmed by persons who lived elsewhere.

Work in Progress

Compiled by JOAN THIRSK

The following list does not lay claim to completeness. It has been compiled from the particulars given in response to a letter circulated to universities, local history societies, and local record offices. It is hoped to publish similar lists from time to time, and the compiler will therefore be glad to receive any information concerning changes of subject and omissions from this list.

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Roman agriculture and settlement in Hampshire.
Ancient fields in Hampshire.

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Bibliography of land drainage, irrigation, reclamation of fen and tidal lands, and warping in Great Britain and Ireland.

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The Survey evidence bearing on the causes, nature, and consequences of the disturbances in certain agricultural areas in 1830–1.

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York common lands and strays.

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History of settlement and agriculture in S.W. Essex before 1600.

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A study of sword making by pattern welding.

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The horse as a source of rotary power.
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Pre-Parliamentary enclosure, 1597–1750.

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Land use and rural settlement in co. Down.

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Bonham-Carter family records, 1700–1950.

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A geographical study of population changes in co. Cork since *c.* 1750.

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Crofting survey. A survey of land use and population, by individual townships, of selected areas: 1956–7 South Uist; 1957 Barra; 1958 Harris, Park (Lewis), Vaternish (Skye).

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Anglo-Saxon charter boundaries.

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See also under JEWELL, C. A.

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Essex (1953) flood report including full report of its agricultural significance with introductory historical background.

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LONG, W. HARWOOD, *Department of Agriculture, Leeds University.*
Yorkshire farming in the sixteenth to eighteenth centuries.

LONGMAN, J. FORD, *Department of Geography, Birkbeck College, London.*
Studies in the settlement geography of Hertfordshire.

MACKAY, DONALD C. H., *Department of Geography, Queen's College, Dundee.*
The population of the parishes of Tongue and Farr, with special reference to the changes in distribution resulting from the Clearances (Ph.D. thesis).

MACKENZIE, H. R., *Department of Geography, Aberdeen University.*
Geographical aspects of transport in northern Scotland.

MACPHERSON, ARCHIBALD, *Department of Geography, Edinburgh University.*
Land utilization in the Dee valley.

MARTIN, J. M., *Faculty of Commerce, Birmingham University.*
Changes in landownership, land utilization, and agricultural income in the West Midlands, 1785–1825 (M. Comm. thesis).

MASON, Mrs KATE M., *Reynard Ing, Ilkley, Yorks.*
History of cheesemaking in Britain.

MATHIAS, PETER, *Queens' College, Cambridge.*
The brewing industry in the eighteenth century: barley, hops, and malt.

MCCORD, NORMAN, *Department of Modern History, King's College, Newcastle-upon-Tyne.*
The activities and organization of the Anti-Corn Law League, 1838–46.

MCGREGOR, O. R., *Department of Social Studies, Bedford College, London.*
History of modern British agriculture and rural society, 1800 to present day.
English land tenure and agricultural progress, 1832–83.
Finance of land-drainage in the nineteenth century.

MCHUGH, B. J., *Department of Geography, The Queen's University, Belfast.*
Land use and rural settlement in co. Tyrone and co. Fermanagh.

MCKAY, J. A., *Department of Geography, Birkbeck College, London.*
The population geography of Banffshire.

MEAD, W., *Department of Geography, University College, London.*
The hedgerow in Buckinghamshire.

METCALFE, B. M., *Department of Geography, Leeds University.*
The reclamation and development of Hatfield Chase.

MILLS, DENNIS R., 6 *Byron Street, Barwell, near Leicester.*
Land use and settlement in Kesteven, *c.* 1700–*c.*1850.

MILLS, F. D., *Department of Agricultural Economics, Reading University.*
National Union of Agricultural Workers: a study of trade union organization in British agriculture.

MINGAY, GORDON, *London School of Economics, London, W.C.2.*
Landownership and agrarian trends in the eighteenth century, based on the Duke of Kingston's estates.

MINTON, Miss J. G., *Fairbourne, Rose Valley, Brentwood, Essex.*
The Petre family lands in the Wid basin of Essex and adjacent areas, 1539–1939 (London M.Sc. thesis).

MOISLEY, H. A., *see under* CAIRD, J. B.

MONTEITH, Mrs D., 6 *Elm Court, Albert Road, Watford, Herts.*
Settlement and field patterns in N.W. Essex, eleventh to twentieth centuries.

NEWLYN, Miss ANNE C., *Department of Agricultural Economics, Reading University.*
The village and manor of Coleshill, Berkshire, 1500–1700.

OLDFIELD, F., *Department of Geography, Liverpool University.*
Physical evolution and reclamation of Mossland.

OLIVER, J., *Department of Geography, University College of Swansea.*
Climate and farming in Anglesey in the first part of the eighteenth century.

OSCHINSKY, Miss DOROTHEA, *Department of History, Liverpool University.*
Treatises on estate management and farming in the Middle Ages.

OWEN, ARTHUR E. B., 2 *Fellows Road, Hampstead, London, N.W.*3.
Land drainage and reclamation in the marsh district of Lindsey.

PARKER, R. A. C., *Queen's College, Oxford.*
Agricultural history of East Anglia in the eighteenth and nineteenth centuries.
Income and estates of Coke, Townshend, Walpole, and other East Anglian noble families in the eighteenth and nineteenth centuries.
The eighteenth-century lease.
The incidence of the land tax in the eighteenth century.

PAWSON, Professor H. C., *University School of Agriculture, King's College, Newcastle-upon-Tyne.*
The agriculture of Northumberland (for the R.A.S.E. county series).

PELHAM, R. A., *The Court House, West Meon, Hampshire.*
Agricultural geography of the fourteenth and eighteenth centuries.

PERKIN, H. J., *Department of History, Manchester University.*
Land reform movements in nineteenth-century Britain.

PETTIT, PHILIP, *Magdalen College, Oxford.*
The economy of the Northamptonshire royal forests, 1558–1714.

PLUMMER, B. A. G., *Department of Geography, University College of Swansea.*
An investigation into human influences on marsh development in the Burry estuary, South Wales.

PORTMAN, DEREK, *Exeter University.*
The smaller domestic architecture in the Oxford region, fifteenth to early eighteenth centuries.

POSTAN, Professor MICHAEL, *Peterhouse, Cambridge.*
The agrarian economy in the Middle Ages.

PRINCE, HUGH C., *Department of Geography, University College, London.*
Parkland in England.
Tithe surveys of the mid-nineteenth century.

PROUDFOOT, V. B., *Department of Geography, The Queen's University, Belfast.*
Soils and early agriculture.
See also under BUCHANAN, R. H.

RAEBURN, JOHN R., *London School of Economics, London, W.C.*2.
Responses of British agriculture to price and cost changes since 1870.

REVILL, S., 85 *Bedale Road, Nottingham.*
Fourteenth-century court roll of Mansfield, Notts.

REYNOLDS, B., *Department of Geography, Queen Mary College, London.*
Late medieval Dorset.

RHYS-RANKIN, Capt. Sir HUGH, *Green Lane, Bryngwyn, via Kington, Herefordshire.*
Welsh cattle droving during the turnpike era from west and central Wales to England.

RILEY, K. C., *Department of Geography, Birkbeck College, London.*
Settlement patterns and population distribution in Shropshire.

RODGERS, W. B., *and* CHAPMAN, Mrs VERA, *and others, Department of Geography, Manchester University.*
Development of farming during the nineteenth century in the parish of Lymm, Cheshire.

ROTHSTEIN, M., *Brooklyn College, U.S.A.*
American wheat and the British market, 1870–1914.

ROTHWELL, Professor H., *Southampton University.*
The estates of St Swithun's Priory, Winchester.

ROWE, JOHN, *Department of Modern History, Liverpool University.*
Cornish agricultural history in the nineteenth century.

RUSSELL, REX, 11 *Priestgate, Barton-on-Humber, Lincs.*
Agricultural unionism and the agricultural labourer in nineteenth-century Lincolnshire.

RUTHERFORD, S., *Department of Geography, Birkbeck College, London.*
Agricultural geography of north-west Kent.

RYDER, M. L., *Fernville,* 68 *Ash Road, Headingley, Leeds* 6.
The origin, domestication, and history of sheep.

SCHOVE, D. JUSTIN, *St David's College,* 29 *South Eden Park Road, Beckenham, Kent.*
The weather and climatic fluctuations in England and Europe in relation to economic activity, A.D. 800–1700.

SENIOR, M. W., *Department of Geography, Leeds University.*
The development of the land utilization pattern in Assynt parish and in Barra.

SHAW, DAVID H., 28 *Brantwood Road, Luton, Bedfordshire.*
Surviving dialect in six villages in south Bedfordshire.

SHEPPARD, Miss JUNE A., *Department of Geography, Queen Mary College, London.*
Rural settlement in East Yorkshire.

SHORTER, A. H., *Department of Geography, Exeter University.*
Field patterns in England.

SIMPSON, E. S., *Department of Geography, Liverpool University.*
The nineteenth-century agrarian history of the Cheshire dairying region.
Agrarian development in the Wem district of North Shropshire.

SKINNER, J. G., *Department of Geography, Birkbeck College, London.*
Essex agriculture in the nineteenth century.

SMEE, Miss D. K., *Department of Geography, Bedford College, London.*
Soil and slope, and ridge and furrow in a Northamptonshire parish.

SPRING, DAVID, *Johns Hopkins University, Baltimore, U.S.A.*
The English landed estate, 1790–1850.

STITT, F. B., *Staffordshire County Record Office, County Offices, Stafford.*
Some medieval accounts of Lenton Priory.

STURMAN, Mother MARY WINIFRIDE, *St Angela's Ursuline Convent, Forest Gate, London, E.7.*
Administration of the Barking Abbey estates (London Ph.D. thesis).

SWALES, T. H., *The Jolly Farmers, Yaxham Road, East Dereham, Norfolk.*
The distribution of the monastic estates in Norfolk, *c.* 1520–1540.

SYLVESTER, Miss DOROTHY, *Department of Geography, Manchester University.*
The open fields of Cheshire.
The rural landscape of the Welsh Borderland.

THIRSK, Mrs JOAN, *Department of English Local History, Leicester University.*
The agrarian history of England in the sixteenth century.

THOMAS, E., 46 *Washington Road, Maldon, Essex.*
The operation of the Poor Law and labour migration in Essex, Berkshire, and Oxfordshire.

THOMPSON, F. M. L., *Department of History, University College, London.*
Nineteenth-century English landed estates.
Wiltshire agriculture, 1870–1955.

THORPE, H., *Department of Geography, Birmingham University.*
Studies of settlement and land use in the Arden and Feldon regions of Warwickshire.

THORPE, Miss SYBIL M., *St Hilda's College, Oxford.*
Monastic lands in Leicestershire at the Dissolution.

VICKERY, ALAN V., *Agricultural Economics Research Institute, Parks Road, Oxford.*
Agricultural policies and programmes in England and Wales, 1900–21.

VOLLANS, Miss ELEANOR C., *Department of Geography, Bedford College, London.*
Agriculture in the Chilterns in the late Middle Ages.

VOSE, E. K., *Court House Flat, Upton-on-Severn, Worcs.*
The estates of Worcester Cathedral Priory (Birmingham Ph.D. thesis).

WALKER, Miss F. R., *Department of Agricultural Economics, Manchester University.*
Home-produced and imported supplies of food since 1820.

WATERS, G. H. C., *Department of Geography, Reading University.*
Strip lynchets in the Highland zone of Britain, especially in the Yorkshire Pennines.

WESTCOTT, Miss MARGARET R., *Department of History, Exeter University.*
The estates of the Courtenay family in the fifteenth and early sixteenth centuries (Exeter M.A. thesis).

WHITTINGTON, G., *and* WOOD, P. D., *Department of Geography, Reading University.*
Strip lynchets at Horton, near Devizes, Wilts.

WILDING, J. R., 1 *Highgate Drive, Dronfield, near Sheffield.*
East Anglian agriculture from 1793–1914 (Sheffield Ph.D. thesis).

WILLIAMS, MICHAEL, 2 *Garden Cottages, Framilode, Saul, Glos.*
The draining of the Somerset Levels.

WILSON, C. P. H., *Peddar's Way, East Wretham, Thetford, Norfolk.*
A short history of the peach, and a treatise on its cultivation as a bush tree in the orchard and garden, together with an anthology.

WILSON, M. J., *Department of Geography, The Queen's University, Belfast.*
History and present status of Conacre.

WITNEY, D., *Department of Economics, The Edinburgh and East of Scotland College of Agriculture, Edinburgh.*
The Scottish agricultural economy, 1850–1950.

WOOD, P. D., *see under* WHITTINGTON, G.

YOUD, G., *Department of Geography, Liverpool University.*
Common lands and enclosure in Lancashire.

Letters to the Editor

OVER-POPULATION

SIR,—In two recent works, Mrs Thirsk's *English Peasant Farming*, and Dr Hoskins's *Midland Peasant*, it has been argued that there was over-population in Tudor and earlier times in some parts of rural England. This argument is one that must have aroused the greatest scepticism in more minds than mine. It seems almost impossible that there should be over-population in any rural district when the total population of the whole country was only about four millions, and wide areas still remained open to occupation.

Leaving that aside, Mrs Thirsk's story indicates that the Fenland farmers owned more cattle than they could conveniently feed rather than that there were more people than could maintain themselves, but this part of the question is not so easily answered as that in Dr Hoskins's book.

On p. 64 he states that each of the three open fields at Wigston contained approximately 900 acres, while on p. 62 he states that the pressure of population was acute. The cultivation was apparently the ordinary rotation of winter crops (mainly wheat and rye), spring crops, and fallow. There was therefore one field of 900 acres every year under winter corn for human eating, and one field of 900 acres under spring corn for human drink and animal feed. The third 900 acres was fallow. Each field included some ley strips; a generous, possibly excessive, allowance would be 200 acres. In the field under winter wheat and rye there would be 700 acres, and this would be the area under these crops every year. I think 200 acres of ley in each field is probably more than there actually was, because that would make a total of 600 acres ley in the three fields, but only Dr Hoskins could say precisely.

In the period under discussion Walter of Henley estimated only three times the seed as yield, but the anonymous *Hosebondrie* of about the same date recommends 1½ quarters maslin or wheat seed on five acres, or 2·4 bushels an acre. The return was the greater in volume as the proportion of rye in the mixture was increased. Equal parts gave six times the seed; wheat alone only five times, the maslin yield being 14·4 bushels, the other 12. These estimated yields are optimistic for the time. Walter of Henley himself thinks wheat at times only returned three times a seeding of 2 bushels. In a favourable year the yield was somewhere between the two, and may perhaps have been as much as 10 bushels average for clean wheat or maslin of one mix or another. Wheat alone might be less; maslin might be more. Ten bushels is not, I think, excessive. On the 700 acres of the field under winter corn some 7,000 bushels of grain for human food would then be harvested. If the yield was lower, and the area of the field under crop was 800 acres or more—as it may very well have been—the result would not have been very different. There would have been getting on for 7,000 bushels to dispose of.

From this gross harvest the seed for the following year had to be saved, between 2 and 2·5 bushels an acre, or one-quarter or one-fifth of the whole. Estimating on the maximum seed requirement of 2½ bushels, some 5,250 bushels were left to feed the population for a year. The maximum population stated by Dr Hoskins was 120 households in A.D. 1377 (p. 60). It was often much less. Taking Dr Hoskins's factor of 3·8 adults to each household, a total of 456 persons is obtained.

In the numerous writings of the eighteenth century dealing with the production of corn it is usually assumed that the healthy labourer consumed a quarter of wheat per annum. It seems doubtful whether rural dietetic habits had changed very much during the intervening 400 years, and reference to Maitland (*Domesday Book and Beyond*, p. 441) suggests the same bread requirement. The production of the wheat field at Wigston would therefore, on the basis of 10 bushels' yield on 700 acres, supply 525 persons; on the basis of 8 bushels only 385, and there would come a strain.

However, Maitland, dealing with the country as a whole, not a particular village, suggests that 2 acres per head were required to produce the bread and beer each individual consumed. One acre of this at Wigston was in the winter corn (wheat and rye) field, the other in the spring corn (barley, oats, etc.) field. If therefore the calculation is made on this basis 700 acres in the winter corn field would supply bread for 700 persons. Maitland mentions that some wheat and rye might be made into beer: he does not mention that some of the barley and oats might be consumed as bread.

If I have been over-generous in granting 200 acres of each of the three fields to be under ley, and there was really a much less amount, as I think likely, the position of the villagers would be by so much improved, and the problem of over-population less immediate. If there was so much, or indeed any, it was a reserve of land that could have been broken up for crops as the population increased. I feel that over-population at Wigston is "not proven."

G. E. FUSSELL

Mrs Thirsk writes: I have always tried to avoid using the term 'over-population' when writing of sixteenth-century England, since it is liable to conjure up a picture of modern China or parts of East Africa, where peasant holdings have become so much subdivided that they only support a family in conditions of semi-starvation. By "pressure of population on the land" in the sixteenth century I mean the problem that arose all over England, and was not simply confined to the fens, when the population of a township rose while its land remained fixed in area. It was a common phenomenon for a village of thirty households to increase its population to forty families within a matter of two or three generations. The additional householders, if they did not get their living as craftsmen or shopkeepers—and few people in the villages depended on this source of income alone—had to find a living on the land. Every one felt the pinch when more and more stock were pastured on the common grazings and more of the waste was taken in and used to extend the arable land. To meet this situation various devices were adopted for using the land more economically. In the less congested parishes, economies were effected by turning unregulated wastes into regulated common pastures, in others by reducing the stint of animals previously agreed upon. In the more populous parishes, pressure on the land led to ley farming, less frequent fallowing in the open fields, and enclosure. There is no doubt that pressure of population on the land was the second agrarian problem of the sixteenth century, the first being that examined by Professor R. H. Tawney in *The Agrarian Problem of the Sixteenth Century* (1912), namely the effect of the price revolution on rural society.

Dr Hoskins writes: Like Dr Thirsk, I try to avoid the use of the term 'over-population'. In my book I refer to "pressure on the land" during the thirteenth and the early fourteenth centuries, and again towards the end of the sixteenth century. Even so, it is well known that there were great variations in the density of population between one part of England and another in these periods, and it was quite possible for the east midlands, for example, to be *relatively* over-populated and for other regions, such as most of northern England, to be *relatively* under-populated. There can be little doubt about the growing pressure on the land in England generally by the end of the sixteenth century, in the sense that tenants were seeking farms rather than landlords seeking tenants. I would have thought that both Dr Thirsk's book and my own showed this pressure at work in various parts of the east midlands at this period and later.

Mr Fussell's ingenious calculations about the production of bread-corn seem to me to be beside the point. By pressure on the land I meant the relationship between the number of farms available in a given parish or region and the number of people seeking farms, not whether people were getting enough to eat. The pressure of a growing population in most parts of England was aggravated by the

increasing tendency towards the engrossing and consolidation of farms. In the parish which I chose for study I showed that by the middle of the eighteenth century only one-third of the families occupied any land; two-thirds of the village population occupied no land at all but had to buy their food with their wages. In these circumstances calculations about the total output of food from a given area have little relevance to the argument.

I agree with Mr Fussell that "over-population at Wigston is 'not proven'." Economists will know that it is nearly impossible to prove that over-population exists at a given time and place, however one defines it. In my introduction (p. xv) I myself said that "one might almost have called the economic history of Wigston a study in over-population, but the materials are lacking to make such a study completely convincing." That is all that Mr Fussell is really saying, but for the wrong reasons.

FARM INVENTORIES AND PEASANTS

SIR,—Mr R. Trow-Smith in his review of Dr J. Thirsk's book *English Peasant Farming* (A.H.R. VI, p. 57) suggests that inventories of "peasants'" goods contain a great mass of incidental information such as: descriptions of farm implements, lists of buildings which housed them, the colours of cattle, and the age ranges of ewes and wethers in the flock. He complains that there is "little here (in the book) of such things." Can it be because he happens to have selected just the details on which farm inventories are unhappily silent or unreliable? I have examined and analysed a considerable number of farm inventories for this region of Sussex (see *Sussex Arch. Coll.*, XCIII) and I have found little to support his ideas. It would be interesting to know on which part of England Mr Trow-Smith bases his notion and the number of inventories he examined. Here the implements are simply "ploughs, harrows, dung-pots, yokes, and harness." The farm buildings, many of which survive from the seventeenth century at least, are rarely mentioned and then only as "wheat in the barn" or "dung in the gate." I have yet to see a reference to colour of cattle. The sheep, pigs, and young stock of all ages are usually grouped, e.g. "100 sheep and lambs." In general the livestock figures are valuable because they give some idea of the relative amounts of draught oxen to horses, cattle to sheep, which happened to be on the farm at death, and when used in bulk they may provide useful comparisons with other soil regions and other periods. But the young stock figures, if they happen to be given, are usually hopelessly ambiguous and inaccurately defined, e.g. "1 sow and 5 pigs" tells us something, but "15 pigs" is not much use because we do not know the amount of breeding stock. Livestock value was all that concerned the appraiser and the name was simply a peg on which to hang that value. A rough definition such as "a plough" or "the sheep" was all that was necessary in appraising a man's goods and chattels. Occasional amplifications are very welcome, but one or two stray inventories provide wholly unconvincing evidence from which to generalize. Probate inventories are not 4th-of-June returns from which anyone can produce nice tidy statistics. They are an invaluable source of agrarian information, as two scholars of great experience in their use, Drs Hoskins and Thirsk, have shown. Both understand their merits and their limitations.

Talking of peasants, can the authorities agree and define exactly what they mean by an English peasant? The O.E.D. does not help. If ten interested persons were asked to define an English peasant, I suggest there would be at least ten different and vague answers. Yeomen, husbandmen large and small, part-time tradesmen-smallholders such as millers and molecatchers, bond and free, are they all peasants? Was the parson using his glebe a holy peasant? Were the town-dwelling butchers and maltsters who farmed, urban peasants? By all means let us make use of the word, if there is no other, but let us know exactly what it means.

Yours truly,

G. H. KENYON

Kirdford, W. Sussex.

Book Reviews

A. A. Preobrazhenskii, *Ocherki kolonizatsii zapadnogo Urala v XVII–nachale XVIII v.* Akademiya nauk SSSR, 1956. 302 pp. 11 rubles 70 kopeks.

V. I. Shunkov, *Ocherki po istorii zemledelii Sibiri, XVII vek.* Akademiya nauk SSSR, 1956. 432 pp. 18 rubles 30 kopeks.

At first sight it might seem that these two works, Preobrazhenskii on the colonization of the western Urals in the seventeenth and eighteenth centuries, and Shunkov on the history of agriculture in seventeenth-century Siberia, are of little relevance for West European readers. But even in a narrow sense the colonization of the western Urals is part of European history, since the Urals are the accepted boundary between Europe and Asia. Preobrazhenskii's book is also of interest in showing one late aspect of the vast process of agricultural settlement in Europe, while Shunkov's book, on the other hand, is concerned with settlement across the Urals in Siberia and with the spread of European farming techniques into Asia. Both books are thus of interest in providing material for comparison with the phase of colonial settlement experienced by many other European nations. Moreover, consideration of Russian colonization may help in focusing attention on one of the central economic problems of agrarian countries, the problem of accumulation.

In 1552 Kazan' fell before the artillery of Ivan the Dread. The collapse of the Kazan' khanate led to a rapid expansion of Muscovy, southwards down the Volga to the Caspian Sea and eastwards to the northern half of the Urals and beyond them into Siberia. In 1598 Verkhotur'e (60° E.) was founded; in 1649 Okhotsk (140° E.). In the previous year Popov and Dezhnev had sailed into the Pacific from the Arctic Ocean.

This extremely rapid expansion from the Urals to the Pacific was, of course, far from uniform and left behind vast areas of this sparsely occupied land untouched by Russian colonization. Preobrazhenskii is concerned with the colonization of one such area, the main town of which, Kungur (which gave its name to the area), was not founded until 1649. Settlement was carried out mainly by fugitive peasants from more northerly territories bordering on the White Sea, sometimes with assistance from the merchant family of the Stroganovs, who were greatly concerned in the development of the area, or of the state. The native population, mainly semi-nomadic hunters and fishers, paid dues, known as *yasak*, in furs, which constituted a valuable item in Russian trade.

Colonization for the most part seems to have been peaceful, although the difference in culture between the Russians and the native Tatar, Ostyak, Vogul, and Bashkir peoples made the latter easy prey to merchants engaging in usury and to simple expropriations by the Muscovite state and land-owning monasteries. The Russian peasantry who settled the area also came to suffer increasingly from feudal imposts; peasants settled by the state were subject to a predial tithe, and there was a continued growth of money rents. The opening up of mines for iron and copper ores led to an increase in the services demanded. Such conditions sometimes led to revolts both by the native peoples, as in the Bashkir rising of 1662–4, and by the Russians, many of whom took part in Stenka Razin's revolt in 1671; but the ultimate resort was always flight into Siberia where land was abundant even if climatic conditions were more severe.

Shunkov's book consists of a series of essays on each of the five main agricultural areas in seventeenth-century Siberia and on a number of specific topics, such as pre-Russian agriculture in the areas, techniques used, the grain trade, and the feudal system in the countryside. From 1598 till 1763 Verkhotur'e was the officially recognized gateway to Siberia. The government strove, for fiscal and other reasons, to restrict entry into Siberia to the recognized route starting at Verkhotur'e, going east along the Ob' to

Narym, then across the Yenisei and along the Lena to Yakutsk. Four of the five regions described by Shunkov lay along this route. The fifth was the less important Transbaikal and Amur region. In fact, there was a general tendency, as one moved eastwards away from the more densely populated European areas with their long-established agricultural techniques, for agriculture to be relatively less important and to have less advanced techniques. Even in the seventeenth century the Verkhotur'e agricultural area and the Yenisei area produced a surplus of grain, and there was some individual production for the market. But other areas remained consumers of grain, which often had to be imported over very great distances. While the three-field system was well established in western and central Siberia, eastern Siberia retained the two-field system. The techniques in use, in fact, varied considerably, but all appear to have been based on Russian experience supplemented by local knowledge, especially in the question of the crops to be grown. The traditional centres of agricultural activity which had formerly existed in Central Asia lay far to the south and were only incorporated in the Russian Empire in the eighteenth and nineteenth centuries; moreover, they had never regained their former level after the Mongol invasions of the thirteenth century.

Both books make a real contribution towards reassessing Russia's eastward expansion. This has usually been explained as due to trade expeditions, largely for the furs to be won from the peoples of the Siberian forests. Even the works of so eminent a scholar as Bakhrushin contain hardly any references to peasant colonization. Yet, even if the later colonization of Siberia had its ancestry in the plundering expeditions sent out by the city of Novgorod from the early Middle Ages, the regularization of similar expeditions and the growth of *yasak* required peasant settlement. The scale of operations by the state and by such merchants as the Stroganovs, the distances to be covered, and the severely continental nature of the climate meant that the forces used to extract *yasak* had to be self-supporting. The native agriculture was inadequate for such a task. The result was that by the end of the seventeenth century almost half of all Russians in Siberia were peasants and many of the remainder engaged partially in agriculture.

The development of Siberian agriculture described in these books, although at a higher level in that it was more productive than native forms, was extensive rather than intensive in its efforts to increase output. The horse-drawn *sokha* (a two or more tined ard) replaced the hoe and digging stick; but the iron shoes for tipping the *sokha* long continued to be imported from European Russia and consequently were extremely costly in the more easterly regions. Moreover, such imports could only be undertaken by those with large capital who could wait the long periods necessary before any return was obtained. Shunkov points out that the grain trade, similarly, was to a large extent in the hands of the state and large merchants. The need for capital and the results of this in the particular conditions of seventeenth-century Siberia are not as fully developed as they might be in Shunkov's book; but such a large question is perhaps outside the scope of such a work.

Both books are particularly valuable to a reader in this country in that they make use of many sources, some unpublished, not available here, and they are well documented. It is regrettable that the only map included by Preobrazhenskii should be the Academy of Sciences map of 1745 which, although of interest, is so badly reproduced that the inscriptions can hardly be deciphered. The maps in Shunkov's book are clear and well produced but diagrammatic. Both books lack an index.

R. E. F. SMITH

HAIM HALPERIN, *Changing Patterns in Israel Agriculture*. Routledge and Kegan Paul, 1957. 28s.

The agricultural historian accustomed to a study of the relatively slow changes in the agriculture of most European countries might at first raise his eyebrows when con-

fronted with this book. It sets out to trace the developments in Israel's agriculture over a period of only six years, from the time Israel achieved statehood in 1948 till the year 1954. The author, however, succeeds in showing that even in this very short time significant trends are discernible.

One is apt to think of Israel as an agricultural country because the whole process of the Jewish return to recognized nationhood had been conceived by Zionism as a return to the land. It is, therefore, interesting to learn that the share of primary occupations of the total earning population had declined from about 47 per cent in 1942 to only about 18 per cent in 1954, and that, conversely, the earners in tertiary occupations had increased their share from about 31 to roughly 50 per cent. Equally, in 1942 the rural population still constituted 54 per cent of the total population, but by 1954 it made up only 30 per cent. The contribution of agriculture to Israel's national economy was estimated in 1954 to amount to 13·8 per cent, producing only about 50 per cent of the country's consumption of agricultural products.

We are told that hand in hand with the mentioned national trends went an urbanization of originally purely agricultural settlements. The first of the modern Jewish settlements established in Israel had been created by private settlers on their own individual initiative and with their own private funds. The author traces how many of these settlers —particularly in the settlements in the plain near towns—have taken on urban occupations in addition to their agricultural pursuits. One is reminded, for instance, of the similar experience of the mid-nineteenth century Chartist settlements in Oxfordshire.

Another important trend has been emphasized by the author. The outstanding achievement in the settlement of the country and in the development of Israel's agriculture by the collective type of settlements is well known. The author compares the development of the relative importance of the two main types of settlement, the "individualistic" and the "collectivist" ones. In 1947 still over 7 per cent of the total population of Israel lived in "collective" settlements, but by 1952 only just under 5 per cent. On the other hand, the share of the people in the "individualistic" settlements had risen from 3 to 5 per cent. However, the "collectives" in 1953 still cultivated an area double that of the "individualistic" villages, i.e. somewhat less than half of the gross cultivated area of the country.

The book provides a well documented account of one of the most fascinating spectacles in agrarian history: the development in less than a lifetime from the Arab village in which a biblical agriculture was still carried on in the twentieth century to the most modern experiments in human and technical effort to produce food. For a person not familiar with Israeli technical terms it is sometimes not easy to follow the author, and his knack of often providing differently arranged sets of figures to show or prove the same point is slightly disconcerting. G. P. HIRSCH

M. W. Beresford and J. K. S. St Joseph, *Medieval England, an Aerial Survey*. Cambridge University Press, 1958. xiv+276 pp. 45s.

This handsome volume provides the best possible introduction to the visible remains (churches excepted) of medieval England. It contains 111 fine air-photographs by Dr St Joseph, and twenty-eight maps and plans. The subjects include field systems, villages, parks, mills, market towns, ports, castles, mines, quarries, salterns, roads, causeways, and hundred meeting-places. One might perhaps wish that the subjects had been more evenly distributed geographically: the index map on p. 275 shows that Wessex is but thinly represented, and the west midlands hardly at all. But the survey is not meant to be exhaustive; it is rather a selection of typical sites. To each illustration Mr Beresford appends a commentary in which he relates the history of the place, drawing upon a wide range of published and unpublished sources, and frequently supplementing them from his personal explorations. Always an interesting and scholarly writer, Mr Beresford has found

here a medium which suits him better than a work *de longue haleine*, and this succession of short articles displays him at his very best.

One example, chosen at random, will show the wealth of interest to be found in these pages. Fig. 98 illustrates Bentley Grange in the West Riding parish of Emley, a farm which until the sixteenth century belonged to the Cistercians of Byland. Behind the farmhouse ridges of ancient ploughland are discernible. These must be at least 750 years old, for the lines of the ridges are interrupted and overlain at frequent intervals by spoil-heaps, consisting of waste material from iron-pits which were worked from the late twelfth to the early sixteenth century. In the centre of each spoil-heap a hollow, now harbouring a tree or thorn-bush, marks the position of the ancient shafts which have collapsed. A light-coloured strip in the foreground was produced by the bull-dozer in 1951, when open-cast mining for coal was in contemplation.

Two points in Mr Beresford's remarks on open-field agriculture invite criticism. On p. 23, speaking of "the basic units of medieval fields," he seems to equate the selion with the strip and also with the unit loosely described in Latin documents as *acra*. But in west midland charters we find references to "two acres containing five [or it may be six] selions," and in two examples from an east midland village cited by Dr Hoskins, fourteen out of forty-one strips consisted of two selions together, and twenty-three consisted of a single selion. Secondly, no one reading Mr Beresford's remarks about grass balks would gather that these balks occur as boundaries of strips in practically all our surviving open fields except at Laxton, and that Miss Beecham, writing in this REVIEW (IV, pp. 40–4), cited numerous instances from the past. Moreover, the survey of Newark-on-Trent published by Mr M. W. Barley provides the medieval evidence for these balks (*metae*) which the late Dr Orwin desiderated: evidence which, by the way, can be supplemented from a medieval court-roll of that most unlikely place, Tooting Bec.

H. P. R. FINBERG

MARY D. LOBEL (ed.), *A History of the County of Oxford*, Vol. V, Bullingdon Hundred. O.U.P., 1957. xxvi+344 pp. 63s.

The Victoria History of Oxfordshire enjoys some important advantages, notably the use of the Bodleian Library's rich collections of topographical material and the presence, in the muniment rooms of Oxford colleges, of a mass of documents relating to the administration of estates in the county. This wealth of material is fortunately in the hands of an enlightened editor, and the present volume, which deals with the twenty-six parishes of Bullingdon Hundred, is a lively and in many ways an exemplary contribution to the series.

Bullingdon is "one of the larger and . . . the most central" of the hundreds of Oxfordshire, stretching eastwards from the Isis and the Cherwell to the Ray and the Thame, and its constituent parishes range from St Clement's, by Magdalen Bridge, and industrial Cowley, through Iffley and Wheatley to the remoteness of Waterperry and Piddington. There is as much variety to be found in these few miles as anywhere in the country, and it is perhaps a pity that the introductory chapter has to deal baldly with the hundred as a fief and an administrative unit, and so misses an opportunity of unifying the diverse parish histories that follow. It is true that hundred boundaries often trace an arbitrary pattern on the ground, as do those of Bullingdon, but it is at least arguable that as the hundreds have been chosen as the units of county history their geology and topography should receive the same attention as their descents.

This deficiency does not impair the parish histories themselves, which are written on an unusually generous scale. The villages are carefully described; their churches and great houses are illustrated by reproductions of prints and drawings, while an excellent series of field maps deserves special mention as an innovation that could profitably be imitated in other counties. Another striking feature of this volume is the length of the sections on social and economic history, which are written with a careful eye to topography, and present in particular a coherent and reason-

ably detailed history of agricultural practice in the region.

Inevitably there is more to be said on some topics than can be included in such a survey, and such matters as the foundation of Cuddesdon Theological College and John Buchan's residence at Elsfield receive only summary notice, but compression weakens the history only when we turn to the industrial and suburban parishes of Oxford, where Cowley in particular suffers from the cramping scale to which the editor has to work. The "history and topography of this area after 1928" are to be treated in the volume on the city of Oxford, but even so the following passage seems under-emphatic: "Early in the 20th century the Church Army opened a small printing works in the disused Congregational chapel in Temple Road, and in 1912 the firm of Morris Garages began to assemble the parts of motor cars at Temple Cowley. The working of the poor law between 1714 and 1833 can be gathered [&c.]." St Clement's, which contains nothing so intractable as Morris Motors, has fared rather better, although the description of the parish in the eighteenth century and after, enlivened by reminiscences of Thomas Hearne and Richard Steele, may not prepare the reader for a sight of its scruffy reality. In the rural parishes, on the other hand, the presence of council houses and the infrequency of omnibus services are justly recognized as matters of no less significance in village history than are fractions of knights' fees, and they are scrupulously noted.

The lack of balance between the urban and rural parish histories is a failing not of this book but of the series to which it belongs, and derives from the uniformity which the Victoria History seeks vainly to impose upon English local history. There is another and more dangerous pitfall which the Oxfordshire editor and her learned contributors have avoided, and for this the reader may be grateful. The most unsatisfactory feature of the Victoria History is commonly its unnatural and monotonous impersonality, qualities that remind us that the history of this village or of that is included, not because some one thought it urgently interesting and wanted to write it, but because this is the Victoria History and it must be done. There is little zest in reading where there is none in writing, and there can be none where the writer's own judgement is superseded by arbitrary rules mechanically applied. In this history of Bullingdon Hundred an ampler scale and a freer use of material carry a conviction that the work is worth doing for its own sake. It would be as well if this quality were to spread widely, but there is unfortunately a prefatory note that speaks of the best articles here as "an experiment," and one that is "not for universal imitation." Imitation, that is to say, within the little universe of the Victoria History: subscribers in the other counties will regret the decision. GEOFFREY MARTIN

ROBERT DAUVERGNE, *Les caractères originaux de l'histoire rural française, Tome deuxième.* Paris: Armand Colin, 1956. xxviii+230 pp.

The first edition of this work was published in Oslo in 1931. Its author, Marc Bloch, had collected material for a second edition and most of this was retrieved in 1944 and, with the remainder of his library, is now lodged in the Ecole Normale Supérieure in Paris. Marc Bloch served with the Résistance and was shot near his birth place at Lyons in June 1944.

This supplement, based on his published papers and manuscripts, has the same chapter headings as the first edition. M. Dauvergne integrates into each chapter the work of Marc Bloch and that of other authors subsequent to 1931. He shows how the inquiring mind of a great scholar was ranging widely over customs and clearances, settlements and farming methods. Marc Bloch was examining both variations throughout Europe and in French regional patterns. The work is prefaced by a bibliography of related works, mainly by French authors, published between 1930 and 1955, and it draws attention to a mass of widely scattered material. Above all, it shows how much is owed, in studies of rural life, to the work and stimulus of Marc

Bloch. Subsequent work, still so inspired, may make a further supplement necessary. In this case, some illustrated examples, comparable to the fine series in the 1931 edition, might be added, together with a full index to replace the inadequate place-names index in this volume. MARGARET DAVIES

JOHN T. SCHLEBECKER and ANDREW W. HOPKINS, *A History of Dairy Journalism in the United States, 1810–1950.* University of Wisconsin Press, 1957. xi+424 pp., illus. $6.

Since the middle of last century a large number of American journals have been started which have been concerned with dairy farming, cattle breeding, or the dairy industry itself. Many of these journals had a short life before ceasing publication or being absorbed by other periodicals. This book is an attempt to survey these journals and the influence that their editors and contributors have had on dairying in the United States, and to assess the rôle of dairy journalists as interpreters and translators of scientific discovery and information for the benefit of the dairy industry generally. The survey is not concerned with the scientists and others who have actually contributed to the developments in the American dairy industry.

In compiling the information for this book, the authors state that in most cases they have read one volume in every five of each journal but have examined every volume when the periodical lived for less than five years. In addition, to get a large cross-section of editorial opinion on important events in American history, many publications were read for such years as 1893 (the panic and Columbian Exposition) and 1898 (the Spanish-American War). Information was also obtained by direct contact with the editors of the journals which still exist.

The period 1810–1950 is divided into thirteen chapters, some covering a short and others a much longer period of time. The reason for choosing these very unequal lengths of time is not very evident to the reviewer but they appear to be roughly related to periods of development or recession in American farming and dairying circles. Before 1852 there were no dairying periodicals, the agricultural press supplying the medium for any journalists' articles on dairying subjects, but two journals were started between 1852 and 1875, thirteen between 1875 and 1883, and six between 1883 and 1885. This latter period saw the advent of two of the best-known journals, *Hoard's Dairyman* and the *Jersey Bulletin.* The editors of these two periodicals, W. D. Hoard and D. H. Jenkins, had a great influence on the dairy-farming public and became leaders of opposite camps in the dairy world, fighting many a wordy battle between 1885 and 1910. During this period a further seventy-one dairying journals appeared but none of them assumed the prominence of Hoard's and Jenkins's publications. Since 1911 some seventy more journals have begun publication. A large number of them are, however, no longer in existence, but *Hoard's Dairyman* still continues to have a very large subscription list, now believed to be over a third of a million.

Throughout this survey, brief references are made to editorial comments on the introduction of such developments as silos for conserving feed, cream separators for butter-making, starters for cheese-making, pasteurization of milk, tuberculosis eradication, and the Babcock test for butter-fat. The authors also frequently quote editorial columns on such topics as monopolies, oleomargarine, State legislation, and other controversial subjects, and show how the editorial policy of these dairying journals attempted to sway farming and dairying opinion.

Throughout, the picture is purely a national one, and as such, will probably be of limited interest outside the United States except to the student of American social or agricultural history and possibly some dairying students and librarians. The book is printed by the photo-offset process from typescript and contains over 100 pages of appendices, notes, bibliography, and a good index. A. W. MARSDEN

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